# LEATH & ROSS'S HOMEOPATHIC PHARMACIES,

STREET, W., VERE

And 5 ST. PAUL'S CHURCHYARD, E.C., LONDON.

Those desirous of

ESTABLISHED 1835.

Our Agents'

To apply at

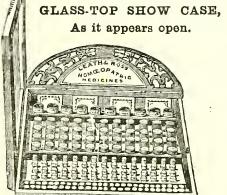
STREET.

VERE

BECOMING AGENTS

are requested

Agents for L. & R.'s Medicines are now established in every town of any importance in England, some of the principal towns in Ireland and Scotland, several of the British Colonies, and India and America. wards of 1,800 persons have accepted the Agency, and many have found this branch a profitable auxiliary to their other business.



TRADE PRICE £4 4s. CONTENTS REALISE £7 1s. 6d.

THE NEW FAMILY CHEST

Wholesale Department.

Contains 28 Bottles of the most useful Homœopathic Medicines, a Guide, giving the treatment of all common complaints, the uses of the Medicines, proper doses, &c. In the lid are the two externals most in use, viz., Arnica and Calendula. It can be fitted to hold either Pilules or Tinctures.

Price 25/; trade price, 16/8.

# LEATH & ROSS'S WHOLESALE PRICE LIST OF MEDICINES, ETC.,

READY

Sixpenny Tubes, 3/- per dozen.

Ninepenny ,, 4/6 Shilling 6/-

TINCTURES—Any strength up to the 30th potency.

Sixpenny Bottles, 3/- per dozen.

Ninepenny " 4/6 Shilling

GLOBULES-Medicated any strength up to the 30th potency. | PILULES-Medicated to any strength up to the 30th potency Sixpenny Bottles, 3/- per dozen.

Ninepenny ,, 4/6 Shilling 6/-

TRITURATIONS-

Sixpenny Bottles, 4/- per dozen. Ninepenny ,, 4/6

Shilling

# EXPORT ORDERS ARE DESPATCHED WITH THE GREATEST PROMPTITUDE.

Special quotations for large quantities.

#### ROSS'S PROPRIETARY ARTICLES.

BERBERINE, 1/11, 2/9, 4/6 ... 9/6, 22/, 36/. | NEURALINE,  $1/1\frac{1}{2}$ , 2/9, 4/6 ... 9/6, 22/, 36/, CHILBLAIN LINIMENT, 1/12, 2/9 ... ... 9/6, 22/.

GLYKALINE,  $1/1\frac{1}{2}$ , 2/9, 4/6 ... 9/6, 22/, 36/. PHOSPHO-MUR. QUININE, or PICK-ME-UP TINCTURE, 1/1½, 2/9 ... ... **ODONTALGIC ESSENCE, 1/11, 2/9, 4/6** 9/6, 22/, 36/. ... 9/6, 22/.

8/, 12/, 20/. OZONIZED OIL, 1/, 1/6, 2/6 ... 8/, 12/, 20/. AUROSINE, 1/, 1/6, 2/6 ANTISEPTIC TOOTH TINCTURE, 1/, 1/6, 2/6 12/, 20/, 36/. 8/, 12/, 20/. HAIR RESTORER, 1/6, 2/6, 4/6 ...

Agents' Counter Cases, £2/2/0, £3/3/0, £4/4/0, £6/6/0, and £10/10/0.

ROSS, LONDON. LEATH 8

REPOINTER RED

ED.

REGISTER

The price of VASELINE is now so low, and its value so universally recognised, that it is coming into general use in Medicine, Pharmacy, and the Arts.

Put up in 1-lb. and 5-lb. tins for dispensing, &c., and in larger packages for manufacturing purposes. BEWARE OF ALL IMITATIONS—See that OUR NAME and TRADE MARK "VASELINE" IS ON EVERY PACKAGE.

As an emollient, Vaseline is superior to any other substance yet discovered. Its marvellous healing and restoring qualities excel everything else, and it is rapidly taking its place on the toilet table to the exclusion of the various complexion powders, pomades, cosmetics, and other compounds. It will keep the skin clearer, softer, and smoother than any cosmetic ever invented, and will preserve the youthful beauty and freshness of the healthy complexion.

Endorsed by the entire Medical Press of England, France, Germany, America, &c. In general use in Hospitals, and recommended by the most distinguished Physicians, Surgeons, and Chemists throughout the world.

Pamphlets containing these editorials and recommendations post free.

#### We beg to call attention to the following Net Price List of our Vaseline Preparations:— FOR MEDICINAL USE.

VASELINE, PURE CAMPHORATED VASELINE. CARBOLATED VASELINE.

All in two sizes. Bottles in fancy card cases.

No. 1 size, 1s. each in Boxes (wood) of 1 dozen, 8s. per dozen.

No. 2 size, 2s. each in Boxes (wood) of ½ dozen, 16s. per dozen.

ditto, đitto, and in 1-1b. tins.

VASELINE in 1-1b. and 5-1b. tins.

CONFECTIONS. For internal use. Pulmonary and other complaints. In Fancy Tin Box, 8s. per doz. TOILET USE.

will make the Hair grow when nothing else will. It keeps the Scalp free from Scurf and Dandriff. Contains no animal matter, and can never become rancid. In 3 sizes. Bottles, in Cardboard Boxes, 8s., 16s., and white in colour, superior Perfumed, glass stoppers, 33s.

VASELINE HAIR TONIC.

A liquid preparation of Petroleum for Ladies' use. Bottles, enclosed in Cardboard Cases, 36s. per dozen.

CREAM. for the Complexion and use after shaving, chafing of infants, &c. Glass Pots, 8s. and 16s. per dozen. CE, for the Lips, Pimples, Blotches. 1 size, 8s. per dozen.

ILET SOAP, 6d. and 1s. Tablets, 4s. per dozen net, and 9s., less 15 per cent. discount.

Tablets 1s. each, 9s. per dozen Tablets, less 15 per cent. discount.

Superfine Tablets, 1s. 3d. each, 12s. per dozen, less 15 per cent. discount.

All soaps made, except the above, are derived from coarse animal fats, in many cases rancid, and in all cases liable to become rancid. There can be nothing healing or soothing to the skin in soaps so manufactured, however pleasantly perfumed they may be.

So-called detergent soaps are made in this manner, and flavoured with a strong irritating chemical which injures the skin.

Vaseline is used by ALL MEDICAL MEN as the most healing substance known; and made into soap, retains all its virtues.

#### FOR THE FARM HOUSEHOLD. AND

Vaseline Harness Paste, Round Tins Vaseline Axle Paste Vaseline Boot Paste

It is the most delicate and elegant Toilet Soap that is made.

ls. 6d. each ... 12s. per dozen. ls. 6d. ,, ... 12s. 6d. " 48.

VETERINARY VASELINE.

FOR DISEASES IN ANIMALS, LOSS OF HAIR, ETC.

... 1s. 6d. each, 12s. per doz. 5-lb. Tins ... 6s. each, 4s. per tin. 1-lb. Tins Also in larger packages for manufacturing purposes.

This article is also the best anti-corrosive in use for preventing rust in guns, arms of all kinds, household utensils, &c.

Standard Ointments, with Vaseline as a base, can be kept without deterioration until used up. In 1-lb. jars at 2s. 6d. each.

Price List, with full particulars of Medicinal, Pharmaceutical, and Toilet Preparations of Vaseline, free by post.

MANUFACTURED ONLY BY THE

#### CHESEBROUGH UFACTURING CO. (NEW YORK)

HOLBORN VIADUCT, LONDON, Important Notice to the Mholesale Frade.

P. Hart & Sonf, Sponge Importers, 55th, Houndsditch f,

Greece and Turkey.

We, buying our Sponges direct from the Tishermen, are enabled to offer the finest selection of Honeycomb and Turkey bups and Solids it is possible to obtain, at prices lower than any other house in the trade.

The Sponges we send out are entirely fiel from Sand but not washed."

Goods ordered by post can be returned if not approved of.

Two thousand cases to select from:

# ARNOLD & SONS' "DESIDERATUM," OR KNIFE & FORK COMBINED.

Suggested by DR. J. C. HOGAN, M.B.

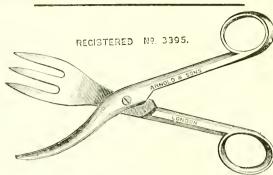
Nickel-plated for

PRICE:

Right or Left

Hand.

15s.



PRICE:

Nickel-plated for Right or Left

Hand,

15s.

This Instrument supplies a want long felt by those who only have the use of one hand, either from Amputation, Paralysis, Accident, or otherwise.

Extract from The Lancet, March 12th, 1881:—"The Instrument of which the enclosed is an illustration (and which I have named 'The Desideratum' for the purpose of registration) was invented by me to obviate as far as possible the awkwardness and inconvenience attendant on the eating of their meals by persons deprived of the use of either arm." Extract from the BRIT. MED. JOURNAL, March 19th, 1831:—"It is on the principle of the shears being formed of a fork and cutting blade, which enables the person using it to divide at will and raise his or her food." Extract from the Med-Press and Chectlar, March 16th, 1881:—"It can be had to suit either the right or left band, and with or without an indentation (which acts as a tooth) on the fork edge." Extract from M. D. Times and Gazette, March 19th, 1881:—"Messrs. Arnold & Sons, of West Smithfield, have most intelligently carried out my design."

Sole Manufacturers: ARNOLD & SONS, Instrument Makers,

By Appointment to Her Majesty's Government, St. Bartholomew's Hospital, and the Principal Provincial and Colonial Hospitals, &c.,

35 and 36 WEST SMITHFIELD, LONDON, E.C.

## THE NEW SEAMLESS TIN BOXES

In Crystallised, Decorated, or Plain Tin Plates, suitable for Blacking, Polishing Paste, Tooth Powdec, Plate Powder, Pomade, Lozenges, &c., &c.

SPICE AND BISCUIT BOXES, COFFEE, MUSTARD, AND POWDER CANISTERS
LIQUID PAINT TINS, &c.

C. SMITH & SONS, ARUNDEL WORKS, SHEFFIELD.

SILVER MEDAL,



THE

# Tin-Plate Decorating Co.,

CRYSTALLIZED TIN BOXES,

PARIS, 1878.

FOR TOILET AND OTHER PURPOSES.

A Samuel Samuel

GOLD MEDAL,

SYDNEY, 1879.

SEAMLESS DECORATED TIN BOXES

Suitable for Blacking, Polishing Paste, Tooth Powder, Pomade, Pills, Lozenges, &c.

## DECORATED TIN CANISTERS,

For Disinfectant Powder, Baking Powder, &c., &c., &c.

WORKS: NEATH, SOUTH WALES.

PRIZE MEDAL,



# NOTICE TO THE TRADE.

JUNE, 1881.



# LOW'S FLOWER EXTRACTS, &c.,

ARE NOW REDUCED IN PRICE, AS BELOW:-

				per	· lb.					per	lb.				per lb.
Ext	. Cassie	•••	•••	•••	9/6	Ext	. Rezeda		•••	•••	9/6	Ext.	Tubereuse	***	9/6
,,	<b>J</b> asmin	•••	•••	•••	9/6	,,,	Rondel	etia	•••	•••	8/-	,,	Violet	• • •	15/-
,,	$oldsymbol{J}$ onquil	•••	•••	•••	9/6	, ,,	Rose	•••	•••	•••	9/6	,,	Verbena	•••	8/-
,,	Lily of t	he V	Vall <b>ey</b>	•••	9/6	, ,,	Rose G	eraniu	ım	•••	9/6	"	White Rose	•••	10/6
,,	Magnolia	ı	•••	•••	9/6	,,	Spring	Flowe	ers	•••	9/6	,,	White Lilac	•••	9/6
,,	Orange 1	Flow	7er	•••	9,6	,,	Stephan	notis	•••	•••	9 6	,,	Wood Violet		13/6
,,	Patchoul	i	•••	•••	9/6	"	Sweet :	Briar	•••	•••	9/6	,,	Wild Rose	•••	9/6
,,	Queen of	f the	e Alps	•••	9/6	,,	Tea Ro	se	•••	•••	9/6	,,	${\bf Ylang} \ {\bf Ylang}$	•••	9/6

These Extracts have always had the highest reputation; they are all of our own manufacture, are guaranteed pure, and of triple strength, and will compare favourably with any in the Trade.

N.B.—Owing to the failure of the **VIOLET** crop in 1880, however, this Extract is advanced in price, and will probably remain high for some time. Purchasers are warned against the spurious Ext. Violets already in the market.

# LOW'S COMPOUND PERFUMES,

For Dilution by the Trade, are the Strongest in the Market, viz .: -

ESS. BOUQUET, JOCKEY CLUB, & FRANGIPANNI.

Price 14/- per lb.; or 13/- in Winchester Quarts.

# LOW'S NURSERY SOAP.

This Soap is the result of considerable study and many experiments, the object desired being to produce a **soap** that would be **quite neutral**, and thus innocuous to the most tender skin, yet one that would lather freely, and not waste quickly away.

Price 33/- per Gross; or 11/- per doz. Boxes of 4 Tablets.

#### FAMILY BROWN WINDSOR SOAP.

At 60/- per cwt., Genuine, and Sweetly Perfumed.

This Soap is recommended to the Trade as the best value that can be obtained. Embossed Squares, 6 to lb., and in 14-lb Boxes.

Discount, 10 per Cent. Cash at a Month, or 5 per Cent. payable on Journey.

# R. LOW, SON & HAYDON,

Perfumers, Toilet Soap Makers, and Brush Manufacturers,

330 STRAND (SOMERSET HOUSE) LONDON.

# S. MAW, SON & THOMPSON'S

REGISTERED

# INDIARUBBER RING TEAT HOLDER,

FOR FITTING ROUND THE NECK OF FEEDING BOTTLES.

3|6

Registered January 21, 1881.

36

Per Doz.

IM

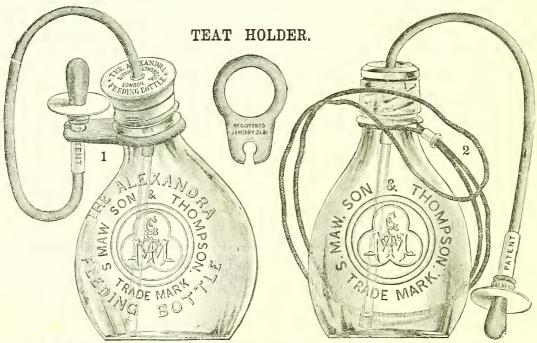
ONE

EACH IN A BOX.

DOZEN

Per Doz.

A useful contrivance in the feeding of Infants for holding the Teat, and preventing the Milk from dropping about. The Ring, being Elastic, can be easily slipped over the projection in the neck of the Bottle, and need not be removed.



#### MAW'S PATENT ALEXANDRA

FEEDING BOTTLE.

Showing the Teat Holder.

#### MAW'S PATENT EXPORT

FEEDING BOTTLE.

Showing the Silk Cord.

# SILK CORDS FOR NURSES

FOR SUSPENDING FEEDING BOTTLES ROUND THE NECK.

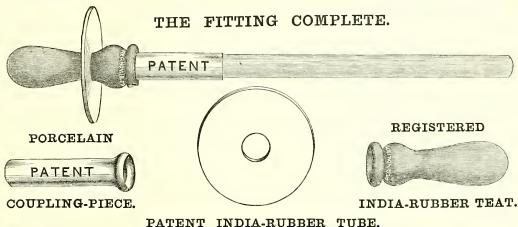
In 1-dozen Boxes, each in a Box, per dozen, 3/6.

DIRECTIONS.—Slip the Cord over the projection in the neck of the Bottle, and tighten with the adjusting slide.

Special Quotations to Wholesale Buyers.

# S. MAW, SON & THOMPSON'S IMPROVEMENT IN FEEDING BOTTLES.

Patented in England, December 4, 1879;
Patented in the United States, April 27, 1880.



PATENT INDIA-RUBBER TUBE.



Patent India-rubber Tubes, in ½ gross and 1 gross Boxes—

9 inch White ... ... per gross, 10/6 9 inch Black ... ... per gross, 15/10 ,, super ... , 16/ 10 ,, ... ... , 16/-

Registered India-rubber Teats, in 1 doz. Boxes—

2 Sizes (Small and Medium), per gross, White, 8/ & 14/; Black, 12/ & 21/-

Patent Coupling-pieces, in 3 doz. Boxes ... ... ... ... per gross, 8/-

S. MAW, SON & THOMPSON beg to inform the Trade that in future all their Feeding Bottles, except Sixpenny, will be fitted with the above PATENTED IMPROVEMENT, unless ordered to the contrary.

The improvement consists in the introduction of the New Registered Teat, and in the construction of the Coupling-piece, the latter **passing over** the **exterior** of the India-rubber Tube, by which arrangement injurious contraction is avoided, and the cleaning of the Tube facilitated, a Tube Brush being easily passed through without the removal of the Coupling-piece.

In the fitting-up of ordinary Feeding Bottles, the Shield fixes the Teat upon the Union Joint, preventing its easy removal, and making it difficult to replace the Teat in its air-tight position, without which the action of no Feeding Bottle is perfect. The New Registered Teat is so formed as to receive the Shield and retain it in position without connection with the Coupling-piece, the Teat thus being easily removed and replaced without damage.

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

S. MAW, SON & THOMPSON, LONDON.

## SANDS' MANUFACTURING COMPANY

Beg respectfully to notify the removal of their Factory from 55 HOLBORN VIADUCT, to more commodious premises at

## 121 GOSWELL ROAD, E.C.,

WHERE THEY REQUEST ALL ORDERS MAY BE SENT.

SANDS'	′	SP.	ECIAL	PREPARATIONS.		
Standard Dyes, 1d, on 6 dozen cards		••	7/ gross.	Dental Fnamel, 3d. packets on 4-gross cards	21/	gross.
,, ?d, on 6 ,,			21/ ,,	Face Powders,		
6d., in 3 dozen glass top boxes	• •	• •	42/ ,,	Tooth Powders,   1d. packets on cards assorted	7/	9.9
Jet Black Dye, 3d., on 3 dozen cards	• •		21/	Hair Wash Powders, )		
,, 6d., on 3 ,,	• •	• •	42/	Insect Powder, 1d. boxes, in ½ gross word boxes	7/	11
Edison's Starch Enamel, 1d. packets	• •	• •	** 7/ ,,	,, 3d. ,, ,, ,, ,,	21/	9.7
,, ,, 3d. ,,	••	• •	21/ ,,	,, 6d. tins, in 1-gross wood boxes	42/	11
Marling Bangila,, 6d. ,,	• •	• •	42/ ,,	Tr	84/	9.7
Marking Pencils	• •		30/, ,,	Vermin Killer, 1d. packets, on 4-gross cards	*** 21/	9.7
Elephantine Cement, 1d. bottles on cards	• •	• •	7/ ,,	,, 3d. ,, ,, ,,	21/	22
y $y$ $2d$ $y$ $y$	• •	••	14/ ,,	Plack Reviver, 2d on b-gross cards	142/	3.9
Polishing Powder, 1d. boxes, in ½-gross wood bo		••	$\frac{42}{7}$ ,,	T T T T T T T T T T T T T T T T T T T	14/	,,
Plate Powder, 1d. boxes, in \(\frac{1}{2}\)-gross wood boxes	.tes	• •	7/	1/	. 84/	99
Dental Enamel, 1d. packets on \(\frac{1}{2}\)-gross cards			7/	"Polishing Powder, 6d, boxes	42/	"
CIDIO CITATE DIO CONTROL CONTR	••	•••	, ,,	,, ,,	,	,,
		3171	*4 1	4 41 1 1 1 2 641 1 1 4 6 6 1 1 1 3 5		

SPECIAL NOTICE.—Whereas, it has come to the knowledge of the proprietors of Sands' Manufacturing Company that unprincipled persons are representing themselves as having purchased this business from the original Alfred Sands, a reward of £20 will be paid on the conviction of any person making any such false statements; the business established by the late Alfred Sands being now carried on wholly and solely at 121 Goswell Road, London, E.C.

DRUGS, CHEMICALS & PHARMACEUTICAL PREPARATIONS.

# OLDFIELD, PATTINSON & CO.,

Late WILLIAM MATHER,

WHOLESALE AND EXPORT DRUGGISTS,

AND

MANUFACTURING CHEMISTS, 37 Long Millgate, MANCHESTER.

SPECIALITIES:

Concentrated Infusions and Decoctions, Soluble Essences, Liquors, Extracts, &c.

IMPORTERS OF DALMATIAN INSECT FLOWERS AND POWDER.

Large Buyers are requested to write for quotations.

PRICE LISTS MAY BE HAD ON RECEIPT OF BUSINESS CARD.

#### THE UNIVERSAL TOOTHACHE SYRINGE

Retail,



Wholesale, 4s. per dozen.

Is a great improvement upon the "Dental Syringe," as the fluid is contained in a glass bulb, which enables its contents to be seen, also prevents the liability to evaporation through long keeping or exposure.

#### THE UNIVERSAL CORN AND WART PENCIL.

1 doz. mounted on a handsome Illustrated Show-Card, Retail, 6d. each; Wholesale, 3s, 6d. per doz. It is especially adapted for Export Trade, and may be safely sent to the hottest climates, as each glass tube is hermetically sealed and enclosed in a cardboard case.

N.B.—Both the above are exempt from Stamp Duty by permission of the Board of Inland Revenue.

CONCENTRATED WATERS.—One Ounce of these Waters added to Forty Ounces of Distilled Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopæia, and free from all Chemical impurity. They are prepared to supply a want long felt by Chemists and Medical Men, and by their uses fresh supply of any of the Medicinal Waters may be obtained at a moment's notice. They are not affected by age in any climate. N.B.—Used in the proportion of one part to thirty-two of water they represent the Medicinal Waters of the United States Pharmacopæia.

one part to thirty-two of water they represent the Medicinal Waters of the United States Pharmacopæia.

Per lb. | Per lb. | Per lb. | Aqua Anethi, Concent. 4/0 | Aqua Cinnam. Ver. Concent. 6/0 | Aqua Fæniculi, Concent. 4/0 | Aqua Pimentæ, Concent. 4/0 | Aqua Fæniculi, Concent. 4/0 | Aqua Pimentæ, Concent. 4/0 | Menth Pip. 4/0 | Rosæ | 8/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip. 4/0 | Rosæ Virgin | 10/6 | Menth Pip.

Wholesale Agents—Hearon & Co., Man, Son, & Thompson, Lynch & Co., London; Evans, Sons & Co., Raimes Liverpool; Woolley, Manchester; Bewley & Draper, Hant & Co., Dablin; Glasgow Apothecaries' Co., Hatrick & Co., Glasgow; Raimes & Co., Duncan Flockhart & Co., Edinburgh; Foggitt, Thirsk; Goodall & Co., Leeds; Slinger & Son, York; McKesson & Robbins, New York. Special terms for large quantities may be had from

B. ROBINSON, Operative Chemist, Distiller and Brewer of British Wines, Manchester.



# PROPRIETARY SPECIALITIES



SAVAR'S ANIMAL SOAP (NON-POISONOUS)

For Washing Dogs and other Domestic Animals. 6d. Packets; 3s. 9d. doz. Fitted with the Latest Improvements. 1s. each; 7s. 6d. and 8s 6d. per doz. BREAST EXHAUSTERS.

SAVAR'S

SAVAR'S

CAMPHOR CASKETS.—Prevent Infection and relieve Catarrh. 6d. and 9d. each; 3s. 6d. and 6s. per dozen SAVAR'S SAVAR'S

Superior 6d. per lb.; 4s. 6d. per dozen. CARBOLIC ACID SOAP.—For Domestic Use, quality (containing 8 per cent. of Acid). loilet 4d. Tablets; 2s. 9d. per dozen. CHEST PROTECTORS.

COAL TAR SOAP.—Prepared from an Original Formula; a most elegant and agreeable Toilet Disinfectant. In Tablets, 4d. and 6d. 1s. to 5s. each; 7s. to 45s. per dozen. Manufactured from best materials. SAVAR'S SAVAR'S

CREAM. - Delicately Perfumed with Otto of Roses. each; 2s. 9d. and 3s. 9d. per dozen. COLD

SAVAR'S

SAVAR'S

Pots, 6d. and 1s. each; 3s. 9d. and 7s. per dozen SAVAR'S SAVAR'S

6d. Boxes, 2s. 3d., 2s. 10d., 2s. 8d., and 3s. 6d. per dozen Boxes; and in bulk, 1s. 8d. to 5s. 6d. per gross. CORN AND BUNION PLASTERS. FEEDING BOTTLES Best White Felt.

These Feeding Bottles are fitted with the best by all to be superior quality of Materials, and are acknowledged

SAVAR'S

to any others offered at the same prices.

May be had either as Fig. 1 or Fig. 2, fitted with White Retail, 6d., 1s., and 2s. each; 3s. 6d., 4s., 7s. 6d., 8s. 6d., and Indiarubber Tubing and Teats, or with Native Black Indiarubber Tubing and Teats.

17s. per dozen.

CHEMIST AND

The Trade are solicited to state distinctly when ordering that SAVAR'S Articles are re-Less Ten per cent. Discount, Three Months' Current Accounts. quired, and are cautioned that each Article is protected with the Trade Mark as above.

SUNDRIES, PROPRIETARY COMPLETE PRICE CURRENT OF DRUGGISTS' A

EVANS, SONS & CO., 56 HANOVER STREET, LIVERPOOL. PROPRIBTORS SOLE

SUGDEN EVANS & CO., Montreal, Canada, and Rouse's Point, New York.

FLORAL POMADES,—Handsomely labelled. In 1s. and 6d. Bottles; 8s. and 4s. per dozen

FLY PAPERS,-For the Destruction of all kinds of Insects. The Cheapest and most Effectual made. 15s. per 1,000 SAVAR'S

FOSSILINE CORN PLASTERS,—Easily applied. Superior FOSSILINE PLASTER.—Highly recommended by the Medical to any others. Boxes, 1s. cach; 8s. per dozen. SAVAR'S SAVAR'S

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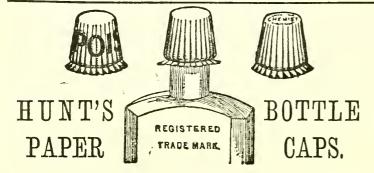
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15	79 89	Ti'		70	17 18 0
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17	17 22		,, ,,	70	
	1) ))		,,	70	10 18 0
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19	19 19	First quality, for Nursery	٠٠٠ ,,	190	9 18 0
20	" "		., ,,	200	7 15 0
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22	",	Second ,, ,,	,,	100	5 6 0
23	11 );	First ,, for Nursery	•••	200	7 17 0
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"	Small			per lb. $4/0$ and $0$	0
Turkey	Cup, for the Bath, from 3 to 6 to	the lb	•••	per lb. $30/0$ , $38/0$ and 2 5	
,,	" for the Toilet, from 8 to 18	to the lb.	• • •	30/0, $35/0$ and $2=0$	0
,,	,, fine, from 8 t			$65/0$ , $50/0$ and $3 = 0$	
"	" for the Nursery, from 25 to	40 to the lb.	• • •	, $20/0$ , $25/0$ and $1/10$	0
"	Eye	•••	•••		0
"	Solid, for the Nursery, from 25 to	6.40 to the lb.		, $12/0$ , $16/0$ and $1 = 0$	0
57	" for the Toilet, from 6 to 18	to the lb.	•••	per lb. 12/0, 16/0, 20/0 and 1 5	
57	Rough, suitable for Slates, &c.	•••	• • •	per lb. $4/0$ , $6/0$ and $0/8$	0
"	Carriage	•••	• • •	per lb. 8/0, 12/0, 16/0 and 1 0	
91	" brown	•••	•••	per lb. $4/0$ , $6/0$ and $0$ 8	0

# S. MAW, SON & THOMPSON,

7 to 12 ALDERSGATE STREET, LONDON.

#### FAC-SIMILE OF LABEL'

IN COVERED JARS.



BURNT-IN LABELS.

... CINCINNATI.

Price to the Trade, 12s. per dozen. Usual Discount.

WHOLESALE OF THE PROPRIETORS, AND OF THE FOLLOWING:-

Duncan, Flockhart & Co. ... ... EDINBURGH.
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NCHESTER. Glasgow Apothecaries' Co.... GLASGOW.

LL. Goodall, Backhouse & Co. ... LEEDS.

W YORK Forgitt & Son THIRSK

Bart & Hickcox ...

Foggitt & Son ... ... THIRSK.

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SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

WHITE AND SOUND TEETH.

# JEWSBURY AND BROWN'S ORIENTAL TOOTH PASTE.



Richardson & Co.

This old-established and increasingly favourite Deutifrice has been Forty Years before the Public It is warranted to retain its properties and keep in good condition in any climate.

The original and only genuine is manufactured solely by

# JEWSBURY and BROWN, CHEMISTS, MANCHESTER,

and is distinguishable by the Trade Mark, printed in red and green, a facsimile of which is annexed. Particular attention should be paid to this guarantee of genuineness, as numerous imitations are offered. Sold universally by Chemists and Perfumers, at 1s. 6d. and 2s. 6d.

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address card, and directions for enclosure.

#### WOODS' ARECA NUT TOOTH PASTE.

For Removing Tartar and Whitening the Teeth, without injuring the Enamel. Sold in Pots, at 6d. and 1s. each.

#### WOODS'

QUININE, CANTHARIDINE, & ROSEMARY HAIR CREAM (WITH Grease). Restores the Hair if weak or falling off.

Price 9d., 1s. 6d. and 3s. 6d. per bottle.

#### WOODS'

QUININE, CANTHARIDINE, & ROSEMARY HAIR WASH Similar to the above (without grease). Price 1s. 6d. and 3s. 6d. per bottle,

# WOODS' DANDRUFF POMADE. Never fails. 1s. per pot.

Proprietor: W. WOODS, M.P.S., Chemist, Plymouth. SOLD WHOLESALE BY ALL LONDON HOUSES.

# BEDDARD'S BELGRAVIA TOOTH-PASTE

(REGISTERED)

Is entirely different from any article of the kind, very much liked by customers, a most effectual dentifrice, and handsomely put up in large jars,

ONE SHILLING EACH:
WHOLESALE OF ALL PATENT HOUSES.

LIBERAL DISCOUNT TO LARGE BUYERS.

Prepared only by

#### JOHN BEDDARD,

46 CHURTON ST., BELGRAVE ROAD, LONDON, S.W.

# R. CRESSWELL & CO.,

SPONGE MERCHANTS & IMPORTERS,

32 Red Lion Square, London;

AT PIRÆUS AND

ESTABLISHED 1850.

The Finest Qualities and Shapes obtainable are quoted below, and the Prices are, without exception, the LOWEST IN THE MARKET.

# PRICES CURRENT OF SANDED & SANDLESS SPONGES.

IN ORIGINAL CASES AS IMPORTED.

#### HONEY-COMB SPONGES.

			•		
_		Pieces in		ice <b>c</b> a	ase.
No.	Qity.	case about.	£	8.	d.
1	1st Finest selected shapes, assorted				
	sizes	130	12	0	0
2	1st Do. do	75	7	0	0
3	1st Do. do	45	4	0	0
4	1st Small selected shapes	275	7	0	0
5	1st Superior do. large Bath sizes	25	7	0	0
6	2nd Do. quality shapes, assorted				
	sizes	125	8	0	0
7	2nd Do. do. do.	75	4	4	0
8	2nd Good quality shapes, small	275	3	10	0
9	2nd Do. do. large Bath sizes	25	5	0	0
10	3rd Do. do. assorted sizes	145	5	5	0
11	3rd Do. do. do	90	3	10	0
12	3rd Do. do. large Bath sizes	25	3	0	0
13	4th For Stable use, &c	125	1	5	0
	•				

#### FINE TURKEY SPONGES

	-	 		OT OT	1 OL	10.		
14 15 16	1st	 do.	assorted do. Bath size		110 55 35	10	0	0

1		Fine	Tu	rkey	Spong	ges-	-continu	ed		
							Pieces in	Pr	ice ca	se.
	No.	Qlty.					case about	£	8.	d.
	17	2nd Supe	rior Cu	ps, assor	ted sizes		110	12	0	0
	18	2nd	Do.		do.	•••	55	7	0	0
	19	2nd	Do.	Bath	sizes	•••	35	9	0	0
	20	3rd Fine	Cups,	assorted	sizes	•••	110	9	0	0
	21	3rd I	0.	do.		•••	65	5	5	0
	22	3rd I	0.	Bath size	es	•••	35	7	Θ	0
	23	1st Turk	ey Sol:	ids, assor	ted sizes	•••	115	7	0	0
	24		Do.		do.		110	5	10	0
	25	1st Flat	Saddle	, assorted	l sizes	•••	55	9	10	0
1	26		00.	do,		•••	35	6	0	0
	27	2nd I	00.	do	,	•••	55	6	5	0
1	28	2nd I	00.	do		•••	35	4	0	0

#### BROWN TURKEY SPONGES.

1									
١	29	1st I	Finest selected,	assorted sizes		140	4	10	0
١	30	lst	Do.	do.	•••	75	2	15	0
l	31	2nd S	Superior quality	7, do.		140	3	3	0
	32	2nd	Do.	do.	•••	75	2	0	0
ı	33	3rd S	Slate quality,	do.		350	1	1	0

The above may be had Sanded or Sandless, as required.

ALL COMMUNICATIONS TO BE ADDRESSED TO LONDON OFFICES.

SPECIAL SOAPS

Family Economic, 4 ditto...
Thymal B tablets in box

#### CONCENTRATED (various)

#### CHOICE ESSENCES

(In Bulk). \(\text{No. 30.}\) \quad \quad \quad \text{12.} \(\text{Cor 20 fluid ounces.} \) \(\text{No. 24.}\) \quad \quad \quad \quad \quad \text{No. 18.}\) \quad \qu

#### POMADES. &c.

2 0 2 2 2 2 2 2 2 3	~ ~ ~
	doz.
Assorted (glass stop'd)	Fs. and 128.
Assorted (tall or squat),	
boxwood tops	4s, and 8s,
Nursery (large)	4s. and 9s.
Lime Juice and Glycerine	
Glycerine and Lime Cream	
Brilliantine	
(separable and unsepa	ırable.)
Brilliantine (White Rose),	
Stoppered Bottles	
Cherry Tooth Paste	4s. and 8s.

#### ESTABLISHED 1777.

Of every known kind, NUFACTURERS. X

SPECIAL QUOTATIONS. PRICE LIST ON APPLICATION.

5 Bishopsgate Avenue, London, E.C.

(In Wrappers).
Carpet and Cloth Soap, 2s.64, and Deg Soap 2s.64 and Coal Tar (Family) 18s. and Carbolic 18s. and Carbolic Sea and Camphorated Winter 27s. and Fullers' Earth 3. Jewellers 44 Petroleum 44 Punice Stone 33 Juniper Tar 48 Sulphur 4s. and Zinc 2s. and

MEDICATED SOAPS

#### TURE.

ALL

ORDERS, &c., TO BE

ADDRESSED

GEO. SALTER, &c. Inventor of "Perfect Pattern" Tooth Brush. Red Lion Square.

Terms: Strictly Cash with order or London. on receipt of Goods. 15% Discount.

Proprietor Startin's "Medela," Dr. Lincoln's Celebrated Preparations, &c., &c.

## SPIRITS OF WINE

FOR

TINCTURES, ESSENCES, PERFUMES, &c., OXFORD ROAD DISTILLERY, MANCHESTER.

#### MESSRS. SMITH & GIBB

Beg to call the attention of CHEMISTS and DRUGGISTS to the undermentioned Prices of Pure Spirits of Wine :

Specific Gravity. Price per gallon. Strength per cent. 20 8 20 0 19 6 63 over proof 0.8238 0.8298 0.8366 60 55 ,, 50 19,0 08482

Terms-Cash on Delivery. Jars to be returned or paid for. For Exportation, Cask included, 4/0, 60 O.P., F.O.B.

Orders from the country must be accompanied with a remittance, including the price of the Jars, which are charged as follows:—2 galls, 3/-; 3 galls, 3/6; 4 galls, 4/-; 5 galls, 5/6; 6 galls, 6/-. When the empties are returned the money will be repaid.

# AND

#### GLYCERINE $\mathbf{ARTICI}$ TEAT

Transparent Glycerine Soap,

In registered Packets of three Tablets, and in oval Tablets in paper. Warranted to contain 33% of the purest Glycerine.

Liquid Glycerine Soap,

Best preventive against chapped hands, and unrivalled for imparting softness to them, and rendering them clean and white-See Testimonials of Professor J. von Liebig, Baron; and of Professor F. Wöhler.

> Double Distilled Glycerine, Chemically Pure, Sarg's

In ½ lb. and 1 lb. Bottles, should have a place in every nursery on account of its salutary action on the heads of children, relieving them from dandriff, and the roughness of the scalp they are so commonly subject to.

Sarg's New Carbolic Glycerine Soap,

In Boxes of three Tablets, is highly recommended as a most effective disinfection.

#### CHEMICALLY GLYCERINE. PURE.

SARG'S DISTILLED CHEMICALLY PURE GLYCERINE, 29° Beaumé, in Cascs of Four 56-lb. Tins each. SARG'S DOUBLE DISTILLED GLYCERINE, Chem. pure, 30° Beaumé, in Cases of Four 56-lb. Tins each; Twenty 5-lb. Bottles, Fifty 1-lb. Bottles, and 100 ½-lb. Bottles, with Registered Label.

SOLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS. SOLE WHOLESALE AGENTS FOR THE UNITED KINGDOM AND THE COLONIES,

#### SCHMEDES, ERBSLOH

6 Castle Street, Falcon Square, LONDON, E.C.; 14 Market Buildings, Flinders Lane, MELBOURNE; 26 O'Connell Street, SYDNEY.

# S. MAW, SON & THOMPSON'S SUPERIOR QUALITY

# Bath Gloves, Rubbers, &c.

			T. 1			
Gloves.	Straps.	Pads.	Gloves. Straps. Pads			
CALEFACIO OR BADEN, No. 1,			<b>HONEYCOMB</b> , White. per doz. $5/4$ $10/8$ $5/6$			
soft Brown per doz. 6/4	10/8	6/0	REVERSIBLE, No. 1, one side			
CALEFACIO OR BADEN, No. 2,			soft Brown, the other best			
hard Brown per doz. 6/4	10/8	6/0	White Turkish . per doz. 7/0 12/0 6/0			
- '	10,0	0,0	REVERSIBLE, No. 2, one side			
CALEFACIO OR BADEN, No. 3,			hard Brown, the other White			
soft Brown striped. per doz. 6/8	11/4	6.10				
	11/1	010	Honeycomb per doz. 7/0   12/0   6/0			
CALEFACIO (the U.S.), Striped,			"THE HAMMAM" TURKISH			
soft Brown per doz. 6/8	11/4	6/0	BATH per doz. 12/0 — —			
TURKISH THIN WHITE GLOVES, per doz. 4/- PADS, per doz. 4/-						

Ditto BEST QUALITY ,, 5/- PADS, per doz. 4/- pitto BEST QUALITY ,, 5/- ,, 5/6

# S. MAW, SON & THOMPSON'S

# SUPERIOR QUALITY WATERPROOF CHECK OR CAMBRIC SPONGE BAGS.

No. 1	2	3	4	5	6
$7 \times 6$	$8 \times 7$	$9 \times S$	$10 \times 9$	$11 \times 10$	$12 \times 11$ in.
7s. 6d.	9s.	10s. 6d.	12s. 6d.	$14s.\ 6d.$	16s. 6 $d$ . per doz.

For other descriptions, see Quarterly Price Current, pages 76 and 77.

# SUPERIOR QUALITY WATERPROOF BATHING CAPS.

CHECK o	r CAMBRIC	assorted size	s	•••	•••	•••	per do	z. 12s. 6d.
,,	,,	extra large	•••		•••	• • •	"	14s.
,,	,,	Circular, two	size	s, per	r doz.	•••	14s.	& 16s. 6d.
OILED SI	LK, three siz	es	p	er do	z.	•••	12s., 1	4s. & 15s.
,,	<b>,,</b> Circular,	two sizes	•••	,,		•••	16s.	& 20s.

For other descriptions, see Quarterly Price Current, page 41.

# 7 TO 12 ALDERSGATE STREET, LONDON.

## GENUINE EMERY, EMERY CLOTH. AND BLACK LEAD. SONS.

Glass Paper, Emery and Glass Cloth; Emery, Black Lead, Pumice, Putty Powder, Crocus, Urn Powder, Tripoli, Rouge, Plate Powder, Steel Polish, Furniture Polish; Knife Boards, Brunswick and Berlin Black, &c.

WELLINGTON KNIFE

Prepared expressly for Oakey's Patent India-Rubber Knife Boards, Buff Leather Boards, and all the Patent Knife Cleaning Machines. Sold in Packets 3d. each; and Tins, with perforated Tops to prevent waste, 6d., 1s., 2s. 6d., and 4s. each.

OAKEY'S NON-MERCURIAL SILVERSMITH'S SOAP,

For Cleaning and Polishing Silver, Plate Glass, Marble, &c. Tablets, 6d each. PASTE, OAKEY'S POLISHING

For Cleaning Brass, Copper, Tin, Pewter, &c., &c. Boxes, 1d.; Tins, 2d.; Pots, 6d. and 1s. each.

LINGTON BLOCK BLACK L:

WELLINGTON In 1d., 2d., and 4d. Blocks, and 1s. Boxes.

WELLINGTON EMERY & BLACK LEAD MILLS, Westminster Bridge Road, London, S.E. Highest Award and Prize Medal, Philadelphia Exhibition, 1876.

Needham's Polishing Paste,

For Cleaning Bras Copper, and Britan Metal Goods, &c.

Pickerings' Razor Paste, For sharpening Razors, &c.

Waterproof Harness Blacking For Black Leather Harness.

DIPLOMA OF MERIT, VIENNA EXHIBITION, 1873. Joseph Pickering & Sons (J. Needham), Albyn Works, Sheffield, BLISHED 18



GROCERS, IRONMONGERS, ETC. SOLD BY ALL CHEMISTS,

Sheffield Knife

LEAD,

Powder.

For Table Knives, Fire Irons, &c.

Plate Powder, For Electro-plate

Articles, &c.

Furniture Polish,

For cleaning French Polished Furniture, &c.

> Brunswick Black,

For all kinds of Iron Work.

66

(REGISTERED) Is used by the Life, Horse, and Dragoon Guards, the Fire Brigades, &c.

METALLIC POWDER

For Cleaning and Polishing Metals and Glass (especially Brass).

PROPRIETORS-

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22 NEWMAN STREET, OXFORD STREET,

LONDON, W.,

And all Wholesale Houses. Beware of Imitations.

#### MARBLE RENOVATOR,

For Cleansing and Polishing Marble. Retail at 8d., 1s. 2d., and 2s.

Surprising in its Effects.

For Preserving all kinds of Polished Steel, Iron, and Gun Metal from Rust. Used with Success by some of the largest Sheffield Steel Manufacturers. Retail at 1s. Wholesale from—

CUBLEY & PRESTON, 4 High Street, SHEFFIELD. And all Wholesale Houses.

## W. S. YATES,

Chemists' Shop Fitter, Shop Front Builder, and Glass Show Case Maker.

PLANS AND ESTIMATES SUPPLIED FOR WORK IN ANY PART OF THE KINGDOM.

9 CAMDEN STREET, LIVERPOOL.

#### INDEX TO ADVERTISEMENTS,

See Pages 33\* & 34\*.

For nearly Half a Century this Powder has sustained an unrivalled reputation throughout the United Kingdom and the Colonies as the BEST and SAFEST article for Cleaning Silver and Electroplate.

Sold in Boxes, 1s., 2s. 6d., and 4s. 6d. each. Also

GODDARD'S FURNITURE CRE.
Sold by all Patent Medicine Houses and Wholesale Druggists, CREAM, Manufactured by J. GODDARD, Station St., Leicester.

FOR CLEANING PLATE.

BRADLEY & BOURDAS'S ALBATUM or WHITE ROUGE,

For Cleaning Gold, Silver, and Plated Goods.

Since its introduction as a substitute for the ordinary Rouge, a quarter of a century ago, the sale has amazingly increased both at home and abroad. A trial is only needed to prove its superiority over other plate powders in use. Sold in Boxes at 1s. and 2s.; Tins, 6s. 6 Pont Street, Belgrave Square and 48 Belgrave Road, London, S.W.



OMAS S. JACKSOI

VIENNA.

MANUFACTURER OF

#### READY-MIXED PAINTS

Packed in 1, 2, 4, 7, and 14-lb. Tins.

25 USEFUL and SALEABLE TINTS,

Superior Colours, well packed, and guaranteed to Dry Well.

#### HANDSOME SHOW BOARDS

(Framed and Glazed), with Specimens of the Colours, supplied.

PRICES AND SAMPLE CARD ON APPLICATION.

(Every description).

**JAPANS** BRUNSWICK AND BERLIN BLACKS. TEREB NE.

FRENCH POLISH WHITE AND BROWN HARD SPIRIT VARNISHES.

KNOTTING. LACQUERS.

DRYERS and of the finest **GROUND COLOURS** quality.

DRY COLOURS, all Prices and Shades.

IMPORTERS OF OCHRE. ULTRAMARINE. &c.

LONDON.

"SPECIA MAHOGANY, OAK, SATINWOOD WALNUT, ROSEWOOD, EBONY.

Draught, or packed in 6d. bottles ( $\frac{1}{2}$ -pint). Also in powder.

#### BOARDS, SHOW

With specimens of the Stained Woods, supplied.

The demand for these Stains is steadily increasing. They possess great richness and truth of colour, and

ARE OFFERED AT A REASON ABLE PRICE.

NOTICE.—All communications should be addressed to the Office—

# LAYTON'S BUILDINGS, 199 HIGH STREET, SOUTHWARK, LONDON, S.E.

There is no connection with any firm of a similar name.

ESTABLISHED 1853.

RETAIL PRICES:

d .. .. .. 1s. 6d. | Large Bottles of Gold .. & Bowl & Brush 2s. 6d. | ", " Liquid .. Small Bottles of Gold with Liquid To be obtained of all Chemists, Artists' Colourmen, and Druggists' Sundricsmen.

NEW 1s. 6d. and 2s. 6d. PACKETS.

CONTENTS:—1 Bottle Gold Powder, 1 Bottle Mixing Liquid, 1 Mixing Bowl, 1 Brush, in Cardboard Box.

Where the Bowl and Brush are not required, the usual 1s. 6d. Packet should be purchased, as it contains a larger quantity of both Gold and Liquid. A Copper and Silver Paint, at the same prices, and yielding equally good results, can be obtained.

NOTICE.—The Gold Paint is so easy of application, economical in use, and excellent in appearance, that it is extensively employed in the Ornamental Gilding of Decorative Mouldings, Carvings, and all Fancy Ornaments made either of Metal, Wood, Porcelain, or Plaster, and the effect that can be produced, even by unskilled hands, makes it useful to all engaged in fancy or home embellishment.

Sole Proprietor Sole Proprietor and Manufacturer. RICHARD J. ALLEN, Mansfield Place, Kentish Town, London, N.W. If Translations are supplied, Circulars, Cards, or Labels will be printed in any language necessary for its sale.

Is still the best for producing a clear and healthy skin.

Used in the Royal Stables, by the Army, and in Hunting Establishments. The best thing made for cleaning Saddles.

MAY BE HAD OF ANY SADDLER. TURNER & SONS, BRECKNELL HAYMARKET, LONDON, ENGLAND.

# The Camphorated Furniture Polish

(Secured by Royal Letters Patent),

For Polishing Furniture, Papier Maché, Marble Articles, &c., with half the usual labour; removes Moths, &c., from contents of drawers and wardrobes, and is free from the unpleasant odour of turpentine.

In Bottles, 8d., 1/2, & 2/ each.

TERMS ON APPLICATION TO THE PATENTEES,

CARRUTHERS & 60 Robertson St., Glasgow.

# BRYANT & MAY,

FAIRFIELD WORKS, BOW, LONDON, E.

AWARDED 9 PRIZE MEDALS.

- BRYANT & MAY'S Patent Special Safety Matches in Dozen Packets and 1d. Boxes.
- BRYANT & MAY'S Patent Family Match Safe, containing Three Dozen of their Patent Special Safety Matches with Three Decorated Cases, ornamental, damp proof, and durable. Invaluable for family use.
- BRYANT & MAY'S Glove Boxes of Ornamental

  Metal; sold empty, or filled with one dozen boxes of their Patent
  Special Safety Matches, or one pound of their extra quality taper.
- BRYANT & MAY'S Patent Safety Match Holders and Match Box Holders for hanging against the wall.
- BRYANT & MAY'S Match and Date Card Holder combined, fitted complete; for hanging against the wall.
- BRYANT & MAY'S Glass and Terra Cotta Stands for Patent Safety Matches.
- BRYANT & MAY'S Novel Ornamental Post
  Office Pillar Box, filled with Wax Vestas and containing
  full postal instructions.
- BRYANT & MAY'S 6d. and 1s. Wax Vestas in Ornamental Flat Metal Boxes.
- MANUFACTURERS OF ALL KINDS OF MATCHES, VESTAS, AND CIGAR LIGHTS.

1843. ESTABLISHED

WHOLESALE AND EXPORT

HOMŒOPATHIC CHEMISTS,

55 Bold St., Liverpool,

Piccadilly, Manchester, 51 ILLUSTRATED PRICE LIST ON APPLICATION.

THOMPSON & CAPPER have now for many years, with the greatest benefit to their Agents throughout the world, supplied, free of cost, Books for Gratuitous Distribution, compiled by themselves, containing complete directions for using the Homeopathic Medicines, a plentiful distribution of which invariably ensures a large sale. Handbills also, with name, ad lib.

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#### DENTIFRICE WATER.

Sells well everywhere, its beneficent qualities being attested to by physicians in all parts of the world. (See Testimonials.)

In 1s. 6d., 2s. 6d., 4s. 6d., and 8s. 6d. Bottles.

# HOMEOPATHIC MEDICINES

FOR EXPORT. Specially Secured

# EVAPORATION.

PREPARED BY

E. GOULD & SON,

Chemists by Appointment to the London  $Hom \alpha opathic\ Hospital,$ 

HOMŒOPATHIC CHEMISTS. 59 Moorgate Street, London, EC.

PRICE LISTS OF MEDICINES, MEDICINE CHESTS, &c., POST FREE TO ANY PART OF THE WORLD.

## THE DESILERATUM" MIXING MAGHINE

P. H. BRACHER

STREET, HIGH WINCANTON.

SPIRITUS RECTIFICATUS.

#### CHEMICALLY PURE.

The Best English Grain Spirit, Free from Fusel Oil.

56 over proof, 20s. per gallon; 60 over proof, 20s. 6d. per gallon; less 5d. per gallon for five gallons. Lower quotations for quantities. Cash on delivery or with order. Country Orders must contain remittance or reference to London House.

LONDON, STREET

Best Methylated Spirits at Lowest Prices. Also Duty Free for Exportation.



SHOP-FITTINGS.

ESTABLISHED 1830.

#### HOWLETT,

4 LINDLEY STREET (formerly called North St.), SYDNEY STREET, MILE END, LONDON, E.,

A few Minutes' Ride by Omnibus from the Bank.

#### MEDICAL AND GENERAL SHOP

SHOPS FITTED BY S. H., and to whom references are kindly permitted :-

Messrs. Corbyn, Stacey & Co., 7 Poultry, London. Mr. H. Deane, Clapham, London. ,, John Broad, Hornsey Rise, London. ,, N. Nicholson, Canonbury, London.

cases for Chemists, Jewellers, &c. Medical Labelling, &c.

Messrs. Leath & Ross, St. Paul's Churchyard, London. " Harvey & Reynolds, Leeds. Mr. W. F. Smith, 280 Walworth Road, S.E. Mr. Thomas Hall, Lowestoft. &c. &c.

Cabinet Fitter to the Pharmaceutical Society of Great Britain. Manufacturer of every description of Air-tight Glass Show>

Plans and Estimates for Entire Fittings and Alterations supplied.

# NTER'S" INFALLIBLE VERMIN DESTRO

"The Best Extant."

The enormous sale last year of this old-established article, and the few specimens of testimonials below, stamp it as undoubtedly "the best extant." It is very neatly and very carefully put up throughout, and is indeed a most satisfactory article in



Thirty-five years' Reputation.

every respect, proof of which lies in the fact of its having - although not constantly advertised - steadily maintained its reputation as such, ever since its introduction to the trade and the public, now about thirty-five years

#### "CANNOT BE EXCELLED."

From Mr. Smith, Chemist, Glasgow :- "I have not kept any other From Mr. Smith, Chemist, Glasgow:—"I have not kept any other Vermin Killer' than yours for the last four years. It is the best I ever sold." From Mr. Geo. Eagle, Merrickville, Sydney, Australia, to Mr. Mitchell, Druggist, Pitt Street, Sydney:—"Sir,—I promised to let you know how 'Hunter's Vermin Destroyer' acted. Its effect was wonderful; in one night it destroyed all the rats and mice about my house, which was swarmed with them."

From Mr. A. Billington, Chemist, Wakefield: August 28, 1878:—"Dear Sir,—Please send me a few of your Vermin Killer Registers. I can bear testimony to the deadly effect of your 'Killer,' having one night laid in my warehouse the contents of a 2d. packet, and found in the morning no fewer than forty dead mice."

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From Messrs. P. Smith & Co., Chemists, Runcorn, October, 1880.—
"In our opinion your 'Destroyer' is the best extant."
From Mr. James Froud, Chemist, Dorchester:—"Your poisou succeeds to admiration. It is as effective as an infernal machine."

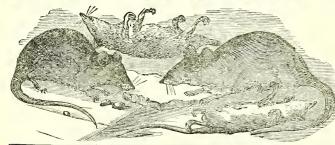
to admiration. It is as effective as an infernal machine."

From Mr. Jas. Thompson, Low Hesket, near Carlisle, to Mr. R. T. Pattinson, Chemist, Carlisle:—"Sir,—You can with confidence recommend 'Hunter's Vermin Destroyer.' It is the best thing I ever used, having often cleared stack-yards of both rats and mice in a day or two."

From Mr. Edward Thornton. Chemist, Lyme Regis:—"I can bear testimony to the efficacy of your 'Killer.' Parties who have purchased it of me say that it is the best they have tried. Mice are rapidly destroyed by it, and it quite auswers the description you have given of it."

Kept in Stock by all the Wholesale Houses in the Trade throughout the United Kingdom. Vide Trade Lists, &c.

#### LABORATORY—WESTGATE & UNION STREET, DEWSBURY, ENGLAND.



Has an immense Sale, and wherever introduced never fails to give satisfaction.—Nice appear attracted to it as by magic, et it readily, tumble over, and die on the spot. Rate usually die in their runs.—Parties troubled with Vermin may be cleared at once, either from Stacks, Houses, or Ships.

TESTIMONIALS.—Thousands might be published. TESTIMONIALS.—Thousands might be published.

From Mr. Thomas Colton, Agent for Selby.—A friend of mine purchased a Packet of your Vermin Killer last night, doubting its efficacy; to-day he called in to say that he had found fifteen dead mice, and had only used part of a packet.—From Mr. EDWARD STURDY, Flemington Mills.—I duly received by post the Packet of your Vermin Killer, and found it as represented in your advertisement. It speedly destroyed all the mice in my granary. I enclose 2s. for two more Packets.—Leeds, November 6th, 1857.—I have tried BATTLE'S VERMIN KILLER, and have found it most effectual in clearing my premises of LARGE QUANTITIES OF RATS.—THOMAS S. CROSLAND.—Mr. Stead.

Sold in Packets, 3d., 6d., and ls. each.

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Balls are most cet for export, are put up in lls of the most cereipes faith-hipping orders to lowest market ive character in nt and safe and well adapted for expongeod in any climate. They are put up 1 dozen each. Capsulod Balls of the mo formule on hand, and private recipes faith a couractely dispensed. Shipping order and earefully excouted, and at lowest mark Price Lists of a very extensive character inost handy referable style on application. Oils are prescribed wisse Cap convenient and safe and well keeping good in any climate. Boxes of 1 dozen each. Capsul approved formules on hand, and fully and accurately dispensed

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ESTABLISHED MORE THAN FIFTY YEARS.

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For Outward and Inward Application, is the best and cheapest remedy for any ailment Stock is liable to, and no stable, Jarmyard, or shepherd should be without them.

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For the Fly and Maggot in Sheep.—Nothing can surpass their value in summer for healing the worst Sores caused by the Fly, at the same time invigorating the growth of Wool.

In Sheepshearing, for Cuts, Sores, or Sprains.

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#### Sole Proprietor, RICHARD CORNER, WELLINGTON, SOMERSET.

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This Preparation has not been equalled for its immediate effects in checking this fatal disease in Lambs, ANN IS QUITE A DIFFERENT PREPARATION to the Devonshire Oils. In Bottles, 2s. εach.

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The most effectual Cure of Scab, Killor of Ticks, Red Lice, and all other Parasites; also,

#### GENUINE SHEEP OINTMENT.

Prepared by steam power, and none but the best materials being used, these Ointments are uniform in strength, and the consistency most suitable for Smearing in hot or cold weather. Sold in Drums of 4, 7, 14, 28, 56, and 112 lbs. each.

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Agents required in every Town. Hand-hills, Pamphlets, Posters, Show Cards, for these and their other preparations—BUTTER POWDER, "GRANULAR BROWNING," DANDELION COCOA—supplied on receipt of trade address.

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(Manufactured by R. J. JAMES, the Grandson of the Inventor).

This celebrated Blister is now offered to the Trade at the following reduced prices:— 1 oz. pots from 12/6 per doz.

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"Cbserve the Trade Mark.—"A Horse's Head on the top of each Pct, and the signature, R. J. James!" Wholesale Agents, Lutler & Criser, 4 Cheapside; Newberr, 37 Newgate Street; Maw, Son & Thompson, 11 Aldersgate Street; Hayes & Co. Dublin; Goulding, Coff; Foggirt, Thirsk; and Sang & Barker, Edinburgh. Agents for the Colonies required. Apply, with reference, to R. J. James, 15 Union Bank Buildings, Ely Place, London, E.C.

James v. James. Lord Romilly, the Master of the Rolls, on February 23, 1872, declared "that I had an equal right with other members of the Inventor's family possessing the receipt to make and sell this Blister."—R. J. James.

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The annexed Label is at the top of every Pot of the ORIGINAL and only GENUINE BLISTER.

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R. S. JAMES, 31 Years Sole Manufacturer, STANFORD, FARINGDON, BERKS.

Advertised in "Bell's Life" 25 years. Beware of a Spurious Imitations.

#### 100 Rats destroyed for a Shilling by BARBER'S PHOSPHOR PASTE.

WRAPPED NEATLY FOR THE COUNTER.

Handsome attractive Posters supplied; if conspicuously placed will command constant sale.



#### BARBER'S VERMIN KILLER.

SOLD THROUGHOUT THE WORLD.

Kills Mice upon the spot. In packets, 3d., 6d., and 1s.

Be not deceived with worthless imitations. Observe the Name !! The VERMIN KILLER sent free by post at the following prices:

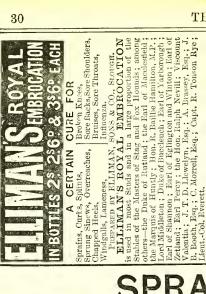
2d. 3d. 6d. 1s. 0d.

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The PHOSPHOR PASTE, at same prices. Carriage paid per rail for enclosure to any Wholesale House, or direct, for quantity of either Paste or Killer.

Special arrangements are made for Sole Agency with Chemists.

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DOG

## SPRATTS PATENT FIBRINE" DOG CAKES & POULTRY MEAL,

MEDICINES

CHEMISTS AND DRUGGISTS. The above Goods have an enormous Sale. For Terms, address-

"SPRATTS PATENT," Bermondsey, S.E., or order through your Wholesale House.

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#### CATTLE. HORSE, BY ROYAL APPOINTMENT.

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Dated 27th December, 1865.

DAY,

INVENTORS AND SOLE PROPRIETORS OF THE

By Special Warrant, Dated 10th February, 1866.

For all Disorders in Horses, Cattle, Calves, Sheep, and Lambs.

Patronised for over 40 years by Royalty, and the principal Stock Breeders, Horse Proprietors, and Agriculturists of the British Empire.

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Admirably adapted for all ordinary ailments among Stock, and each preparation can be had separately. Full and easy directions enclosed.

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ALDERSGATE

By Appointment to H.R.H.

the late Prince Consort.

For Destruction of Ticks, Lice, &c., and Prevention of Fly.

HAS NOW BEEN USED WITH GREATEST SUCCESS FOR NEARLY HALF A CENTURY.

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AWARDED 53 GOLD AND SILVER MEDALS BY VARIOUS AGRICULTURAL SOCIETIES. MEDICATED

Specially prepared for Horses, Cows, Pigs, Sheep, and Poultry. They surpass anything ever introduced, preserve health, strength, and condition, cure Coughs, Colds, Worms, &c., and are the best known preventitives of diseasc. Will keep in any climate. Sold in 1s., 4s., 12s., and 24s. Canisters.

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Keep Dogs in good condition and free from disease. BISCUITS,

LACTEAL COMPOUND.

For rearing Calves without Milk, and improving their condition.

These are the only preparations of the kind manufactured by a qualified Veterinary Eurgeon.

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For the effectual Destruction of RATS and MICE. Guaranteed Second to None. Sale Increasing Daily.

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For the efficacy of which nnmerous Testimonials have been received. Sample Packets Post Free. Prices, 2d., 3d., \(\xi\)d., and 1s.—1s., 1s. \(\xi\)d., 3s, and 6s. per dozen. Carriage Paid. Counter Bills.

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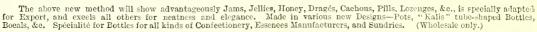
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BATTERSEA WORKS, LONDON, S.W.

CAUTION—Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Sole Proprietor of the Hunyadi János Spring, compel him to warn the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

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WITH METALLIC NICKLED CAPSULES.



THE LARGEST ASSORTMENT IN ENGLAND.

DE LUCA, French Flint Glass Manufacturer, 21 Jewin Crescent, LONDON, E.C. TO BE HAD OF ALL DRUGGISTS' SUNDRIESMEN.

Important Notice to the Trade.

## HELLIAR'S FLY TICK & LEAR POWDER,

For Dressing Sheep and Lambs.

ESTABLISHED

May be sold without Registration, as it contains no poison prohibited by Act. Sold in Tins at 1s. for 20, 2s. for 50, and 3s. 6d for 100 Sheep, with full instructions for use.

IMPORTANT TESTIMONIAL from W. F. BENNETT, Esq., Chilmark, Salisbury.—"Your Fly Powder has heen used on my flock some years, and I have always found it most efficacious in keeping off the fly and killing tieks; in fact, I have not dipped my lambs for the last two years.—Aug. 30,1875."

1/- size, 9/-; 2/-, 18/-; 3/6, 31/6 per doz., carriage paid, discount 5 per cent. 3 months' account. London Wholesale Agents:—Barelays, Sangers, W. Edwards & Son, Hovenden & Sons. Exeter: Evans, Gadd & Co.

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EDWIN HELLIAR, Manufacturing Chemist, YEOVIL, SOMERSET.

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THE best and most effectual Medicine for preserving Good Health and Prime Condition in that Noble Animal THE HORSE.

 $A {\rm LSO~FOR~NEAT~CATTLE~they~are~invaluable~both} \\ {\rm A} {\rm LSO~FOR~NEAT~CATTLE~they~are~invaluable~both} \\ {\rm much~faster~and~at~a~less~cost~by~oecasionally~giving~a~Ball.} \\$ 

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Sold by all Chemists and Patent Medicine Vendors.

Persons using the Balls may consult the Proprietor gratuitously.

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MR. CUPISS, Diss, Nerfolk, Proprietor of the Constitution Balls, will have pleasure in supplying the Trade, on application, with Bills for distribution, and Posters, which are very attractive, delivered free to any House in London, or other large town, for inclosure; and to prevent error, it is desirable to send a eard of address.

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15th August, 1881.

DISCOUNTS

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Increased Discounts!!!



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CONDY'S	FLUID	RED	(with	Prize	Medals)	1s.	size,	<b>4</b> s.	per	doz.
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SMALL QUANTITIES, NETT CASH ON DELIVERY.

Assorted Orders for 6 dozen, 5 per cent. discount Cash on Delivery.

1 gross, 10 per cent. and  $2\frac{1}{2}$  per cent. Cash on Delivery. Special Terms for larger quantities sent on application.

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PREPARED BY AN IMPROVED PROCESS BY WHICH THE VIRTUES OF THE TARAXACUM OR DANDELION ROOT ARE RETAINED IN A HIGH DEGREE.

In Tins, 6d., 9d., 1/0, and 1/6.

Is by far the best in the market. Excellent in quality, neatly packed, cheap and economical, and a very saleable article.

#### BEWARE OF WORTHLESS IMITATIONS.

Wherever this superior preparation is introduced, Chemists find a ready and increasing sale.

AGENTS WANTED THROUGHOUT ENGLAND
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SOLD BY NEARLY ALL FIRST-CLASS HOUSES.



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A Noble Earl, the oldest in the House of Peers, sends the following message:—" Present my compliments to Messrs. Mawer, and tell them I like their Taraxacum, and it agrees with me very well; and request them to send the usual number of tins."

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MAWER'S TARAXACUM COFFEE.— Testimen'al.—
"Lady Charlotte Hobart-Hampden has bought Mr. Mawer's Taraxacum
Coffee for over a year and a half, and is able to say that it is much preferred
here to the other kinds of Coffee, and that it is found more economical.
Hampden House, Bucks."

IMPORTANT MEDICAL TESTIMONY.—"I believe Mawer's Taraxacam Coffee to be a very useful preparation for persons suffering with weakly stomachs or sluggish and inactive livers. It is light, and casily digested, and forms a pleasant and palatable beverage for breakfast or supper."—HENRY R. RUCKLEY, L.R.C.S.I., L.R.C.P.E., &c., &c.

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PAVEMENT, CONEY ST., & COPPERGATE, YORK.

Lczenges of all descriptions made from Customers' private formulæ (or ingredients) and stamped with name if required.

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"THE FERFECTION OF PILL MAKING."

FIRST AWARD.

HIGHEST AWARD-SILVER MEDAL,

FIRST AWARD-SILVER MEDAL,





Paris Exposition, 1878.



Melbourne, 1881.

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UNEQUALLED FOR

Purity in Composition, Solubility in Coating, Uniformity in Size, Perfection in Form and Finish.

THE unparalleled success of our Soluble Coated Pills and Granules in America has induced us to offer them now for the first time to the Physicians and Pharmacists of Great Britain, who are respectfully invited to examine and try them, and to compare them with any other Coated Pills on the market. They are acknowledged to be among the finest specimens of elegant Pharmacy, and have successfully competed with all other kinds of Coated Pills.

We desire to call the attention of Physicians and others to the following points:

- 1. The best materials are used in their manufacture.
- 2. The Pills are Coated while soft.
- 3. The Coating is quickly and perfectly soluble, and there is no sub-coating of any kind.
- 4. The Coating is so thin that the Pills are not perceptibly increased in size, and yet entirely protects them, and effectually covers any nauseous taste.
- 5. The Coating is so transparent as to clearly reveal the colour of the mass, and its solubility is not impaired by age.
- 6. The mass is worked to the highest possible degree of uniform intermixture, and subdivided with scrupulous
- 7. Vegetable or organic matters are not charred, nor are volatile principles lost by the use of heat at any time throughout the process of manufacture.
- 8. The excipients are specially adapted to the permanent solubility of the mass and its efficient therapeutic action.

Particular attention is called to our Granules of Morphine, Strychnine, Arsenious Acid, Aconitine, Hyoscyamine, and other powerful remedies. The desirability of having these medicines accurately subdivided and ready for dispensing will be

Our List of Pills and Granules includes several hundred of the officinal and standard drugs, chemicals, and pharmaceutical preparations, including the Pills of the British Pharmacopeia, Quinine, Podophyllin, &c.

#### HIGHEST AWARD, PARIS, 1878; SYDNEY, 1879; MELBOURNE, 1881.

These Pills and Granules as seen in the International Medical and Sanitary Exhibition, 1881, at South Kensington, can be obtained from Messrs. Allen & Hanburys, General Agents for Great Britain and Ireland, Plough Court, 37 Lombard Street, London. Lists, prices, samples, and information furnished on application.

#### W. H. Schieffelin & Co.,

IMPORT & EXPORT DRUGGISTS, and MANUFACTURING CHEMISTS & PHARMACISTS, NEW YORK, U.S.A. ESTABLISHED 1794.





# Index to Advertisements.

August 15, 1881.

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Special Rates for Wrapper and pages preceding and following Literary matter, also pages facing inside of Wrapper. The above Scale of Charges will be subject to a discount of 10 per cent. upon 7 and 20 per cent. upon 13 insertions, prompt quarterly payments.

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All Advertisements intended for insertion in the current Month must be sent to the Publisher of the Chemist and Druggist on or before the 12th, except Employers' and Assistants' Advertisements, which can be received up to 10 A.M. on the morning previous to publication.

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ARNOLD & SONS Combined Knife and Fork 6	· ·
ALLEN, R. J. Bessemer's Gold Paints 25 ANTITROPIU CO. Glacialine 50 APOLLINARIS CO. Hunyadi-Janos Aperient Water. 32 ARNOLD & SONS . Combined Knife and Fork 6 ASSISTANTS WANTING SITUATIONS 37 AUSTRALIAN (RAMORNIE) MEAT CO. Liebig's Extract 95 AYLESBURY DAILY CO. Koumiss. COLORDED CHECHALE and 98	
AUSTRALIAN (RAMORNIE) MEAT CO., Liebia's Extract 95	DARLING, W. Dentifrice DARTON, F., & CO. Scientific Instrume
AYLESBURY DAIRY CO Koumiss Coloured Circular, and 98	DARTON, F., & CO Scientific Instrume
The state of the s	DAVENPORT, J. T. Chlorodyne DAVENPORT & CO. Soda Water Ma DAY, SON & HEWITT Horse Cattle, an DELACRE'S EXTRACT OF BEEF CO. DE LUCA, G. V. Glass Pots and
	DAVENPORT & COSoda Water Ma
BAGLEY, WILD & CO	DAY, SON & HEWITT Horse, Cattle, and
BAGLEY, WILD & CO.         Glass Bottles.         80           BAILEY, W. H., & SON.         Trusses.         54           BAINBRIDGE & POUND.         Marking Ink.         44           BAINGRIFFIED & CO.         44	DELACRE'S EXTRACT OF BEEF CO
BAINBRIDGE & POUND Marking Ink	DE LUCA, G. V
BAISS BROTHERS & CO. Wholesale and Export Druggists 66 BALL, HOBSON & CO. Foreign Chemists. 59 BARBER, T. Vermin Killer, &c. 29 BARNETT & FOSTER Soda Water Machinery, &c. 84, 106 BARRETT & ELERS. Patent Stopper Aèrated Water Bottles, &c. 83	DENOUAL, J
BALL, HOBSON & CO Foreign Chemists 59	DE ST. DALMAS, APlasters
BARBER, T. Vermin Killer, &c. 29	DE ST. DALMAS, A. Plasters DINNEFORD & CO. Solution of Mag DOBELL, DR. Works on the He DUNCAN, FLOCKHART & CO. Chloroform, &cc DUNN & CO. Manufacturing
BARNETT & FOSTER Soda Water Machinery, &c84, 106	DOBELL, DR
BARRETT & ELERS Patent Stopper Aerated Water Bottles, &c. 83	DUNCAN, FLOCKHART & CO Chloroform, &c
BARRON, SQUIRE & CO Wholesale and Export Druggists. 71	DUNN & CO
BATHGATE & CO Wholesale Druggists 59	
BATTLE, J. R Vermin Killer 28	
BAUMGARTNER & CO "La Brillantine" Metal Polish 24	EDINBURGH NEW VETERINARY COLLEGE
BECKETT, WFruit Syrups, Summer and Winter Drinks 88	EDINBURGH SCHOOL OF CHEMISTRY AND
BEDDARD, J Belgravia Tooth Paste 20	EDUCATIONAL NUMBER OF THE CHEMIST AND
BEECHAM, T	ELLIMAN, SONS & CORoyal Embrocu
BEWLEY & DRAPER Dichroic Ink 56	ELLIS & SON Aërated Water
BARRETT & ELERS. Patent Stopper Aerated Water Bottles, &c. 83 BARRON, SQUIRE & CO. Wholesale and Export Druggists. 71 BATHGATE & CO. Wholesale Druggists 59 BATTLE, J. R. Vermin Killer 28 BAUMGARTNER & CO. "La Brillantine" Metal Polish. 24 BECKETT, W. Fruit Syrups, Summer and Winter Drinks 88 BEDDARD, J. Belgravia Tooth Paste 20 BEECHAM, T. Pills 77 BEWLEY & DRAPER Dichroic Ink 56 BIGGS Sheep and Lamb Dipping Composition 31 BINGLEY J. Aërated Waters 90	ELLIS & SON
	LEPPS J & CO Chocolate Essen
BIRD, F	EVANS, H. S., & CO Wholesale Dru
BLACK WELL, G. GFuller's Earth	EVANS. J. Extract of Ma
BOEHRINGER & SOEHNE Sulphate of Quinine, &c 59	EVANS, H. S., & CO. Wholesale Dru EVANS, J. Extract of Ma. EVANS, LESCHER & WEBB . Wholesale Dru
BOND'S DAUGHTER Marking Ink COLOURED CIRCULAR, and 14	EVANS, SONS & CO Fossiline Prend
BOUDAULT, H	EVANS, SONS & CO. Vin Santé
BOURDER & TANIOR	EVANS, SONS & CO. Fossiline Prepe EVANS, SONS & CO. Vin Sante EVANS, SONS & CO. Savar's Specialt EWEN & SONS. J. Clurified Lard
BOURNE & TAYLOR Druggists Sunarymen 35	EWEN & SONS. J
DRACHED B. H. Medical and General Printers . 44	
PRADIEV & DOUDDAY Plate Pander	
BOND'S DAUGHTER Marking Ink COLOURED CIRCULAR, and 14 BOUDAULT, H. Pep ine 60 BOURJEAURD, P. Elastic Spiral Appliances 54 BOURNE & TAYLOR Druggists Nundrymen 35 BOWLES & CROSS Medical and General Printers 44 BRACHER, P. H. "Desideratum Mixer" 27 BRADLEY & BOURDAS Plate Povader 24 BRAND & CO. Specialities for Invalids 97 BRAND, H. W. (LIMITED) Essence of Beef Text, 346 BRANDH, H. W. (LIMITED) Essence of Beef Text, 346 BRAND & HINCHCLIFFE Aërated Water Engineers and Valuers 92 BRECKNELL, TURNER & SONS . Skin and Saddle Soap. 25 BRETT, F. J. Transfer Agent and Valuer 36	EADINA T.M. Fay de Cologne
BRAND H W (LIMITED) Essence of Reef Trym 246	FARINA, J. M
BRATRY & HINCHCLIFFE Agrated Water Engineers and Valuers 92	FAVARGER & CO. Soda Water Mac
BRECKNELL, TURNER & SONS, Skin and Saddle Soan. 25	FELLOWS J. I. Hunonhosphites
BRETT, F. J. Transfer Agent and Valuer 36 BRISTOW, T. F., & CO. Tolet Soaps and Perfumery 22 BRODIE, J. Golden Hair Wash, &c. 18 BRYANT & MAY Matches, &c. 26 BUCK, F. Dentistry 44 BULLOCK, J. L., & CO. Pepsina Porci, &c. 66 BURGESS, WILLOWS & FRANCIS Wholesale Druggists. 71 BURROUGH J. Chemically Pure Sn Vini Reel 27	FAULDING & CO, Wholesale Drug FAVARGER & CO. Soda Water Mac FELLOWS, J. I. Hypophosphites FELTON, GRIMWADE & CO. Wholesale Drug DDNUNGS
BRISTOW, T. F., & CO. Torlet Soaps and Perfumery 22	
BRODIE, J	FEVRE, DSeltzogenes and Miner
BRYANT & MAY Matches, &c	FINCH, RICKMAN & CO Mustard
BUCK, F Dentistry 44	FEVRE, D. Seltzogenes and Miner FINCH, RICKMAN & CO. Mustard FINZELBERG Pepsina Porci FITCH & NOTTINGHAM. Leeches
BULLOCK, J. L., & CO Pepsina Porci, &c 66	FITCH & NOTTINGHAM Leeches
BURGESS, WILLOWS & FRANCIS Wholesale Druggists	FRATELLI DE PASQUALE & CO Essences FRY & SONS
BURROUGH, J	FRY & SONS Chocolate and
BURROUGHS, WELLCOME & CO American Specialities 55	
BUSH, W. J., & CO Essential Oils, Fruit Essences, &c. 94	
BURROUGH, J. Chemically Pure Sp. Vini Rect. 27 BURROUGHS, WELLCOME & CO. American Specialities. 55 BUSH, W. J., & CO. Essential Oils, Fruit Essences, &c. 94 BUSINESSES WANTED AND FOR DISPOSAL 36, 37	GABRIEL & TROKE Wholesale Dr
BUTCHER, W., & CO	House Cattl
BUTT, W. E., & CO	L CALLAIS F & CO Mingral Water
	GEORGE, J. E. Pills GERAUT, E., & CO. Seltzogenes an GIBSON, R. M-dicated Lose GILLOTT, J. Pens GLASGOW APOTHECARIES' CO. Glass Bottles
- I DAY DAY	GERAUT E & CO Seltzogenes an
CADBURY BROS         Cocoa Essence         106           CARR, W. GRAHAM, & SONS         Cod-liver Oil, &c.         78	GIRSON R Medicated Love
CARR, W. GRAHAM, & SONS. Cod-liver Oil, &c	GILLOTT J Pens
CARRUTHERS & ALLAN Furniture Polish 25	GLASGOW APOTHECARIES' CO Glass Rottles
CENTRAL SCHOOL OF CHEMISTRY AND PHARMACY 45	GODDARD, J
CHEMISTS' AERATED WATERS ASSOC	GODDARD I Plate Pounder
CHESEBROUGH MANUFACTURING CO Vaseline 4	GOULD E. & SON Homeonathic Me
CHUBB, J. C Seidlitz Powders, &c 38	GREENSILL, T. S Mong Bouquet
CARRUTHERS & ALLAN Furniture Polish. 25 CENTRAL SCHOOL OF CHEMISTRY AND PHARMACY 45 CHEMISTS' AERATED WATERS ASSOC. 88 CHESEBROUGH MANUFACTURING CO. Vaseline. 4 CHUBB, J. C. Seidlitz Powders, &c. 38 CLARKE, F. J. Blood Mixture 78 COCKING T. S. Pill Machine 78	GODDARD, J. Plate Powder. GOULD, E., & SON Homeopathic Me GREENSILL, T. S. Mona Bouquet GULLIVER, S., & CO. Aërated Water.
COCKING, T. S	
CONDY'S FLUID CO	
CONDY, H. BOLLMANN	HANDO H
CONSOLIDATED SOUP & FOOD CO Valentia	HADODEA VEC I & CON Aeuralgia and .
	HADDIS D & CO
Juice Lactrose &c 1 07	HARRIS, F., & COZinci Oxya. (H.
CORNER R. Cattle Medicine	HARRISON, W. DNorwegian Block Ice-
CRAVEN, F. Vermin Poison 21	HART I & SON
CRAVEN, M. A. Wholesale & Export Confectionen 22	HAV W France of Immaior Circum
CRAWSHAW, E. & CO Ink Powder, Dues Ac. 18	HAVWOOD IS Flastic Stacking
CRESWELL, R., & CO Sponges	HELLIAR E FIN Tiel Ponda
CORBYN, STACEY & CO.         Chaulmoogra Oil, Valentine's Meat           Juice, Lactrose, &c.         1, 67           CORNER, R.         Cattle Medicine         29           CRAVEN, F.         Vermin Poison         31           CRAVEN, M. A.         Wholessale & Export Confectioner         38           CRAWSHAW, E., & CO.         Ink Powder, Dyes, &c.         18           CRESWELL, R., & CO.         Sponges         21           CROSSLEY BROS         "Otto" Silent Gas Engine         82           CROWN PERFUMERY CO.         49	HANKS, H
CROWN PERFUMERY CO	HEWLETT, C. J. & SON Lin Santal Flan
10	, and the state of

t be received up to 10 A.M. on the morning previous to publication.	
CUBLEY & PRESTON "Anti-Rust" CUFF. J. H. Mineral Waters CUFISS, F. Corstitution Balls for Cattle	24
CUFF. J. H Mineral Waters	93
CUTISS, F Corstitution Balls for Cattle	02
·	
DARLING, W. Dentifrice  DARTON, F., & CO. Scientific Instrument Manufacturers DAVENPORT, J. T. Chlorodyne DAVENPORT & CO. Soda Water Machinery DAY, SON & HEWITT Horse, Cattle, and Sheep Medicines DELACRE'S EXTRACT OF BEEF CO. DE LUCA, G. V. Glass Pots and Bottles. DENOUAL, J. Peruvian Mixture Copsules DE ST. DALMAS, A Plasters DINNEFORD & CO. Solution of Magnesia DOBELL, DR. Works on the Heart and Lungs DUNCAN, FLOCKHART & CO. Chloroform, &c. DUNN & CO. Manufacturing Chemists	12
DARTON F & CO Scientific Instrument Manufacturers	47
DAVENPORT, J. T. Chlorodyne	75
DAVENPORT & COSoda Water Machinery	84
DAY, SON & HEWITT Horse, Cattle, and Sheep Medicines	30
DELACRE'S EXTRACT OF BEEF CO.	$\frac{35}{32}$
DENOITAL I Perurian Mirture Cansules	72
DE ST. DALMAS. A. Plasters	76
DINNEFORD & CO Solution of Magnesia	78
DOBELL, DR	40
DUNCAN, FLOCKHART & COChloroform, &c.	70 61
DONA & CO	01
EDINBURGH NEW VETERINARY COLLEGE.  EDINBURGH SCHOOL OF CHEMISTRY AND PHARMACY.  EDUCATIONAL NUMBER OF THE CHEMIST AND DRUGGIST, 40  ELLIMAN, SONS & CO. Royal Embrocation  ELLIS & SON  Aérated Waters  EMPLOYERS WANTING ASSISTANTS.  EPPS, J., & CO. Chocotate Essence.  EVANS, H. S., & CO. Wholesate Druggists  EVANS, J. Extract of Mail  EVANS, LESCHER & WEBB Wholesate Druggists  EVANS, SONS & CO. Fossiline Preparations  EVANS, SONS & CO. Sonsiline Preparations  EVANS, SONS & CO. Savar's Specialties  EVANS, SONS & CO. Savar's Specialties  EWEN & SONS J. Clurified Lard, &c.	49
EDINBURGH SCHOOL OF CHEMISTRY AND PHARMACY	40
EDUCATIONAL NUMBER OF THE CHEMIST AND DRUGGIST, 40	, 99
ELLIMAN, SONS & CO Royal Embrocation	30
ELLIS & SON	92
EMPLOYERS WANTING ASSISTANTS	97
EVANS H. S. & CO. Wholesale Dryagists	73
EVANS. J. Extract of Malt	80
EVANS, LESCHER & WEBB Wholesale Druggists	73
EVANS, SONS & CO Fossiline Preparations	48
EVANS, SONS & CO	89
EWEN & SONS I Clumbed Land &c	14
EN ER & SOAS S	
FARINA, J. M. Eau de Cologne	62
FAULDING & CO Wholesale Druggists	59
FAVARGER & COSoda Water Machinery & Syphons	81
FELLOWS, J. I	76 33
FENNINGS A Children's Ponders &c.	106
FEVRE, D Seltzogenes and Mineral Water Powders	86
FINCH, RICKMAN & CO. Mustard	98
FINZELBERGPepsina Porci	38
SRATELLI DE PASQUALE & CO. Forences	38 63
FARINA, J. M	96
GABRIEL & TROKE	
Horse, Cattle and Sheep Balls	28
GEORGE J. E. Pids	346 76
GABRIEL & TROKE Wholesale Druggists—Capsuled Horse, Cattle and Sheep Balls GALLAIS, E., & CO. Mineral Waters. Text, GEORGE, J. E Pils GERAUT, E., & CO. Seltzogenes and Syphons GIBSON, Medicated Lozenges, Jujubes, &c.	85
GIBSON, R	98
GILLOTT, J	44
GLASGOW APOTHECARIES' COGlass Bottles	80 40
GODDARD, J	24
GOULD, E., & SON Homeopathic Medicine for Export	27
GREENSILL, T. S	12
GILLOTT, J. Pens. GILLOTT, J. Pens. GLASGOW APOTHECARIES' CO. Glass Bottles. GODDARD, J. Chemists' Price Book GODDARD, J. Plate Powder. GOULD, E., & SON Homeopathic Medicine for Export GREENSLLL, T. S. Mona Bouquet GULLIVER, S., & CO. Aërated Waters	85
HANKS, H	70
HARGREAVES, J. & SON Corn and Wart Pencil	14
HARRIS, P., & COZinci Oxyd. (Harris's)	57
HARRISON, W. B Norwegian Block Ice-Mineral Wa'ers	92
HARSTON, AGinger Ale	93
HAV W France of Jamaia Ginger Cingar Ale 02	5
HAYWOOD, J. S. Elastic Stocking Maker. &c.	74
HELLIAR, E	32
HERBERT & GODFREY Aqua Crystal Spectacles	71
HEWLETT, C. J., & SONLiq. Santal Flav. c. Buchu et Cabeba	68



#### Index to Advertisements (continued)—August 15, 1881.

01					1
HEYNES, M	ATHEW & CO	Foreign Chemists	59 40	PETERSON & CO. Sponge PHILLIPS & SON Dandelion Coffee	99
TOLLOWAY	V PROF	Medical Bookseller	72	PHILLIPS, E. A., & COKorff's Chocolate Powder	99
HOOPER &	CO	Brighton Seltzer	1 38	PICKERING, J., & SONS Polishing Paste, &c. PIESSE & LUBIN Perfumery	15
HOVENDEN	I & SONS	Robare's Aureoline for Golden Huir	14	PLOMER, E., & CO Foreign Chemists	59
HOWLETT,	S	Shop Filter	27 76	PLUMBAGO CRUCIBLE CO	76
HUNT W	F	Pleated Paper Bottle Caps	18 28	POTHS, H., & CO. Bottles and Jars. PULVERMACHER, J. L. Galvanic Chain Bands. &c	44 57
HUNTER		Vermin Destroyer	20	PURE FOOD CO.	98
IDRIS & C	0	Sparkling Phosphade	51	DATAMEN T	4.4
TATCUDAM		Improved Enema ApparatusMortars and Pestles	79 80	RAYNER, LShop Fitter, &c. RICHARDSON, J., & COPearl-Coated Phosphorus Pills	44 69
INSULE, E	. D	Mortars and I estess	•	RIMMEL, E. Perfumery, &c. ROBBINS & OO. Specialities	12 80
		a con a trade deservice	45	ROBERTS & CO Foreign Chemists	58
TACESON	T Q	& CO.). Scientific Apparatus Paints, Varnishes, &c	25	ROBINSON. B Dental Syringes, Corn Solvent Pencils, &c. ROGERS, W Nursery Hair Lotion	10 12
TAMES		Toulet Specialities	$\frac{12}{29}$	ROSS, W. A., & COGinger Ale	90
TAMES P	1	Horse Blistering Ointment Horse Blister	20	RUBECK, HOleum Caryoph.	60
JEWSBURY	C& BROWN	Mineral Waters	20 91		
JONES E.	B	Foreign Chemist	59	ST. MARY'S HOSPITAL MEDIOAL SCHOOL SALMON, ODY & CO. Trusses	43 79
				SALTER, GEO Tooth Brushes	22
KAYE, J		Kaye's Worsdell's Pills	76	SANDS' MFG. CO Dyes, Cement, Toilet and Polishing Powders SAVORY & MOORE Special Preparations	10 56
KEMP, W.	NE DOCCED & C	O Colonial Druggists	14 64	SCHACHT & TOWERZEYLiquor Bismuthi, &c	70
			~ -	SCHMEDES & CO	45
KILNER BI	OS	Chemical and Scientific Bookseller	81 40	SCHIEFFELIN & CO Soluble Coated Pills and Granules SCHWEPPE'S MINERAL WATERS. TRXT,	34
			42 90	SEABURY & JOHNSON Porous Plasters—Reduction in Prices	103
KINLOGH	C! Xt C!()	Gough's Good Templar Champagne Mineral Waters	91	SHIRREFFS & COForeign Chemists SILICATED CARBON FILTER CO76, 100,	59 101
RINMOND	<b>a</b> co			SLIPPER, J. S	16
TATOR DE	,	Phosphodyne	72	SMITH, A. H. Medicine Chests SMITH & GIBB Pure Spirits of Wine	$\frac{54}{22}$
			63	SMITH, J. GAërated Waters, and How to Make them	40
		Pyretic Saline Brodie's Remedy for Corns	95 38	SMITH, J., & CO. Foreign Mineral Waters SMITH, W. F. Dandelion Antibilious Pills	88 76
			99 3	SMITH, W. F. Dandelion Antibilious Pills SMITH, T. Norwegian Cod Liver Oil	70 6
LEATH & I	RUSS	Drya Merchants	59	SMITH, C., & SONS	18
T.EVERMOR	E BROS	Precipitalea Chair	61 29	SOUTHALL BROS. & BARCLAY New Normandy Honey, &c SOUTH LONDON SERIES OF PHARM. TEXT BOOKS	55 44
TITTEDICOD	TO T	Dietetic Preparations	13	SOUTH LONDON SCHOOL OF PHARMACY	41
		Universal Food	97 63	SPRATT. Dog Cakes, Poultry Meal, &c STEDMAN Tething and Seidlitz Powders TEXT,	30 346
			40	SUSSEX DRUG CO Cobden's Quinine and Phosphorus Pulls	38
TOW CON	R THE VIDON	EDICAL COLLEGE Toilet Soaps and Extracts	43 7	SYMES & COLac Bismuthi—Ol. Lavand. Rect., &c	72
			102 60	MANTOD M. C. D. I. ASsected Waters	0.0
LYNCH &	CO	Trommer's Extract of Malt Enemas, Loofars, Porous Plasters		TAYLOR, T. & F. J Aërated Waters TENCH & TAYLOR Transfer Agent and Valuer	92 37
				THOMPSON & CAPPER Homæopathic Chemists TINPLATE DECORATING CO	27 6
MACHADIA	N T T & CO	Pure Chloroform	70	TIPPER, B. C., & SON	31
MAW SON	& THOMPSON	Tooth Paste	20 9	TOMLINSON & HAYWARD Glycerine Dip TOMLINSON, R. Shop Filter and Valuer.	$\frac{29}{52}$
MAW, SON	& THOMPSON	Feeding Bottles	13	TOWLE, A. P	78 52
MAW SON	& THOMPSON	Sponges	19 <b>31</b>	TREBLE, G., & SONShop Fitter TRIPPIER, TTransfer Agent and Valuer	37
MAW SON	& THOMPSON	Papier Moure, Insecticide Vicat, &c. Bath Gloves, Sponge Bags, &c.	20	TURNER, J	95
MAW, SON	& THOMPSON	Perfumery Indiarubber Ring Teat Holders, &c.	17 8	TULLY, J	85
MAY & BAL	KER	Manufacturing Chemists Tamarind Lozenges	95	UNIVERSITY OF GLASGOW	42
MILLS & C	O	Manufacturing Chemists Tamarund Lozenges Bourne Aërated Waters	90 38	TAXABO T	0=
MISCELLA	NEUUS	Glass Rottles &c	80	VALLET, L	85 86
MORRISON	At THEW	Shellac and Gum Merchants Pure Crushed Linseed TEXT,	1 T		
MURPHY,	J	Marking Ink	13	WALKER & DALRYMPLE Tea Agency	98
				WEST, THOMAS Okell's Mona Bouquet WESTMINSTER COLLEGE OF CHEMISTRY AND PHARMACY	12 43
NELSON, I	ALE & CO	Pure Beef Tea	99	WHIFFEN, T Ouinine Sulphate, &c	68
NESTLE, E	[	Milk Food and Condensed Milk Mustard Plast rs, Berdoe's Extracts	96 57	WHITAKER & GROSSMITH Perfumery WILCOCKS, N. G. Soda Water Machinists 49	$\frac{16}{9,83}$
NEW YOR	RK DRUGGISTS'	CIRCULAR AND CHEMICAL		WILLAN W Smelling Salts	16
NEWTON,	KEATES & $COP$	hosphate of Soda & Chemical Manure	61	WILSON, L. & A. Dr. Harland's Hair Dye	12 20
NORTH BE	ITISH CHEMICAL	L CO	66	WOOLLEY, SONS & CO. Pure Crushed Linseed WRIGHT, J. W. Ginger Beer Powder	61
				WYLEYS & CO Wholesale Druggists	
OAKEY &	SONS	Emery Knife Polish, &c O Drugs, Chemicals, &c	24 10		
OPPET, & (	îO	Friedrichshall	106	YATES, W. S	24 39
OSBORNE.	E. M	Chemists' Transfer Agents Golden Drops for Deafness	36 45	100HG, II Arnauca corn and Banon Fusiers	
				ZIMMERMANN, A. & M Agents for the Chemische Fabrik auf	
PARNALL	& SONS	Chemists' Balances	18	Actien, Berlin-Schering's Celloidine, &c	65
PATTISON	, G	Young's Corn Plasters—Notice	39	ZOEDONE CO	
100	-				84 D

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I hereby declare that I am the sole and only proprietor of the business of the late Henry Young, the original inventor of the Arnicated Corn and Bunion Plasters; that I am now manufacturing and supplying the said Plasters; and that I carry on this business under the firm, style, and title of Henry Young, at the above address; and that it is my intention to forthwith commence legal proceedings against all persons attempting to injure my business or the sale of the Plasters by false or misleading statements with reference thereto.

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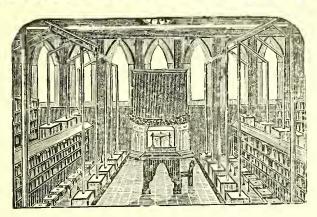
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Clinical Medicine, \*9 A.M.—Professor M'Call Anderson.

Clinical Surgery, \*3 A.M .- Professor George Buchanan.

Chemistry, 10 A.M.; and Chemical Laboratory, 9 A.M. to 4 P.M .-Professor Ferguson.

Anatomy: Senior, 11 A.M.; Junior, 2 P.M.; and Practical Anatomy, 9 A.M. to 4 P.M.-Professor Cleland, Dr. William Allen, and other Demonstrators.

Practice of Physic, 11 A.M.-Professor Gairdner,

Materia Medica, 12 noon, and Pharmaceutical Laboratory-Professor Charteris and Dr. Napier.

Institutes of Medicine, 12 noon, and Physiological Laboratory-Professor M'Kendrick and Dr. J. M'Gregor-Robertson, the Muirhead Demonstrator.

Surgery, 1 P.M.—Professor Macleod.

Midwifery, 4 P.M.-Professor Leishman.

Public Health - Professor Simpson.

#### SUMMER SESSION.

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# WINTER SESSION WILL COMMENCE ON

WEDNESDAY, OCTOBER 26, AT 2 O'CLOCK P.M.,

When the Introductory Address will be delivered.

#### STAFF OF PROFESSORS AND SUBJECTS TAUGHT:-

#### VETERINARY MEDICINE AND SURGERY:

Professor Williams, F.R.S.E., F.R.C.V.S., Principal, Ex-President of the Royal College of Veterinary Surgeons, &c., Professor of Veterinary Surgery to the Highland and Agricultural Society of Scotland.

#### PHYSIOLOGY AND PRACTICAL HISTOLOGY:

Professor James Hunter, F.R.C S.E., L.R.C.P.E., Lecturer on Physiology, Edinburgh Medical School.

#### ANATOMY:

Professor LEWIS, M.R.C.V.S.

#### CHEMISTRY, PRACTICAL CHEMISTRY, AND TOXICOLOGY:

Dr. Stevenson Macadam, F.R.S.E.

Mr. FALCONER KING, F.C.S., F.I.C., City Analyst.

MATERIA MEDICA, THERAPEUTICS, AND PRACTICAL PHARMACY: Professor Lewis, M.R.C.V.S.

#### MORBID ANATOMY:

D. J. HAMILTON, M.B., F.R.S.E. & L.R.C.P.E., Pathologist to the Royal Infirmary.

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# KING'S COLLEGE, LONDON. — MEDICAL DEPARTMENT.—The WINTER SESSION will be OPENED on Monday, October 3rd, at Four P.M., when the Distribution of Prizes will take place, and an Address be given by Sir John Lubbock, Bart., M.P., F.R.S., D.C.L.

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Bentley, Dean of the Department.

<sup>\*</sup> Besides the Lectures of the Professors who are entitled to teach clinically, the Lectures of the other Physicians and Surgeons of the Western and Royal Infirmari's recognised by the University Court are accepted for graduation.

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Diseases of the Throat—Dr. Morell Mackenzie. Diseases of the Ear—Mr. A. Gardiner Brown. Anatomy and Pathology of the Teeth—Mr. Ashley W. Barrett. The SESSION 1881—82 will COMMENCE on SATURDAY, October 18, 1881. Fee for Lectures and Hospital Practice, 90 guineas in one sum, or 100 guineas by three instalments. The Hospital contains nearly 800 heds. Number of in-patients during 1880 was 6,312; out-patients, 55,767.
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LONDON, JULY, 1881.

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126 Candidates presented themselves for Examination, 73 failed, 53 passed. 42 presented themselves from the Westminster College, the following 30 passed:—

Mr. C. H. Atkinson.
,, R. W. S. Hall.
,, Ll. Davies.
,, B. Hughes. Mr. J. N. Harrison. F. H. Fresson.
C. G. Preece.
T. W. Leyland.
W. L. Pearse. M. Jones. A. L. Blain. R. Bnsh. X. Jepson. II. T. Pavey. J. B. Davidson. W. T. Deeks. R. Owen. W. Mangnall. F. Willett. G. Todd. T. Ll. Hughes. R. Evans. F. T. Gibson. W. Wyatt. H. Robinson. F. G. Foster, S. J. Fisk. A. Jaeklin. J. Torrance.

The following Students were also successful in passing their Examinations—

MAJOR-Messrs. Botwood, Jowett, Rookledge, Lewis, and Matthews. PRELIMINARY-Messrs. Stanlake, Dexter, and Sanshury. APOTHECARIES' HALL—Messrs. Leyland, F. Willett, S. S. Dunu, and F. Williams.

#### SESSION 1881-1882.

Students desirous of commencing on Sept. 1st should enter at once, so as to secure Bench, &c.

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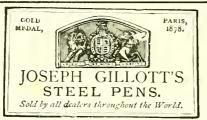
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Single ... 2 ,,  $2\frac{1}{2}$  ,, 1s ,,

All Forms and Sizes can be had.

Among the English Firms who have received Awards at the Centennial, Philadelphia, are the Patent Plumbago Crucible Company, Battersea Works, London, for Jewellers' and Chemists' Furnaces, Mufflers, Crucibles, and Scorifiers.—Chemist and Druggist.

Other particulars on application to



FOR TELLING THE TEMPERATURE OF THE BLOOD IN CASES OF FEVER.

With Imperishable Index, as noticed in the "Lancet," "Chemist and Druggist," "Design and Work," &c.

Can be obtained only of the Sole Inventors and Makers, F. DARTON & CO.; are much superior to the ordinary contracted Clinical Thermometers, and not being liable to get out of order, as is usually the ease with Clinical Thermometers, are therefore specially suited for export.

### PLAIN CLINICAL THERMOMETERS,

In Boxwood Cases, 4 in. or 6 in., 4s. 6d. each.

Ditto, in Ebony Cases, with Contracted Stem and Indelible Scales, 5s. each.

Ditto, 4 in., in German Silver Cases, 3s. per dozen extra.

Ditto,  $3\frac{1}{2}$  in., in Ivory Cases, 5s. 6d. each.

Ditto, 4 in., in Ivory Cases, with Wings to prevent rolling, 12s. per dozen extra.

Darton's Improved Imperishable Index Clinical Thermometers, in Case, 4 in. or 6 in., 6s. each.

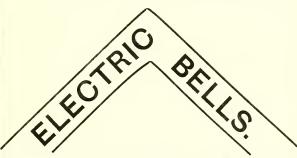
Ditto, with enlarged and magnified bore, 7s. each. Ditto, with both Fahrenheit and Centigrade Scale, 18s. per dozen extra.

One Bent and one Straight Clinical Thermometer, in Velvet-lined Morocco Case, 6 inches long, 10s, 6d. per set.

Any of these supplied in Centigrade Scales instead of Fahrenheit, if required, without extra charge. Special prices for quantities.

Kew Certificates (supplied to order only), 1s. 3d. each extra.

Illustrated Price List of Barometers and Thermometers forwarded on application.



New Pattern Best Electric Bell, on Metal Frame, Battery, 20 yards Line Wire, Push Piece or Thief Detector, suitable for Office or Shop Door, 16s. 6d.

Ditto, large Bell, with 2 Batteries, 25s.

New Form Portable Invalid's Bell Battery, Push Piece and Flexible Cord, with Pear-shaped Push, in Polished Mahogany Case, £2 2s.

Our New Illustrated Price List of Electric Bells and Fittings, with directions for fitting, sent post free on application.

### SPECTACLES.

We beg to call the attention of our Customers to our NEW NEUTRAL TINT GLASSES, mounted in Nickel-plated Folders, for protection for the eyes from the glare of the sun, price 42s. per dozen, assorted tints.

Our £2 2s. SHOW CASE for the Counter, in Polished Mahogany, contains 4 doz. Spectacles, Sight Tester, and Instructions for suiting sight.

Our £3 3s. CASE contains, in addition, 2 doz. Folders and 2 doz. Cases.



Larger sized Cases, in Polished Mahogany or Ebonised, with an assortment of superior quality Spectacles, Folders, and Cases, £6 6s. and £10 10s.

Ditto, with assortment of Best Pebble Spectacles and Folders, £21.

Printed Instructions and Focimeter sent with each Show Case.

New Illustrated Price List of Spectacles and Folders, with Trade Terms, on application.

# F. DARTON & CO.,

45 ST. JOHN STREET, LONDON, E.C.

A bland, odourless, perfectly pure Hydro-Carbon Jelly, of greater smoothness, firmer consistency, and better appearance than any other Petroleum Jelly.

As a REMEDIAL AGENT the properties of FOSSILINE are not to be excelled. Physicians have found it invaluable as a basis for Ointments, &c., and as a vehicle for employing the most prized and potent medicines. It is now used in the leading Hospitals in Europe and Canada. It CANNOT GO RANCID, and as an EMOLLIENT it is undoubtedly the best yet discovered, being far superior to Glycerine, Cold Cream, or Camphor Balls in softening and healing properties. As a HOUSEHOLD REMEDY it is recommended as an application to Burns, Cuts, Bruises, and Sprains, Sunburns, Chilblains, and all other Skin Discases, and the Bites of Poisonous Insects.

Sold in Bottles, One Shilling each; 8/ per dozen.

The following preparations may also be obtained:-

Prevents the hair from falling off, and as a smaller quantity is sufficient for use, it is the most economical Hair Dressing known. Sold in Three-Ounce Stoppered Bottles, One Shilling each; 8/ per dozen. Also in Sixpenny Bottles; 4 per dozen.

Highly emollient and economical, the most agreeable Soap.

In Tablets, 6d. each; or in 1/6 and 5/ Boxes; 4/, 13/, and 48/ per dozen. These Toilet Requisites are exquisitely perfumed with the delicate odours of the

MONTSERRAT LIME TREE BLOSSOMS.

Generally used in the leading Hospitals as a substitute for other Plasters, it adheres readily without warming, and is easily removed for inspection of wounds or re-dressing, and of great service (spread on Holland or Leatherine) as an application to bed sores.

Sold in Boxes, Ninepence each, 6/ per dozen; or spread on linen, 9/ per dozen yards; on holland, 12, per dozen yards.

Are emollient and cooling, and as they do not require wetting or warming, are easily applied.

In Bulk (1/2 gross glass-top Box s), 3 6 per gross; and in Boxes, Retail 6d. and 1/each, 3 6 and 7/per doz.

#### SUBJECT TO THE USUAL DISCOUNT.

Be sure to ask for FOSSILINE and SAVAR'S preparations of it, and see that you get them, and not any others SAID TO BE of a similar nature. See that the Trade Mark is on the label.



SOLE PROPRIETORS,

# EVANS, SONS & CO., EVANS, LESCHER &

56 Hanover Street, Liverpool 60 Bartholomew Close, London.

H. SUGDEN EVANS & CO., Montreal, Canada, and Rouse's Point, New York.

TRADE



MARK.

#### SEVEN PRIZE MEDALS AWARDED.

BOND STREET, LONDON,

Beg to draw the attention of Chemists. Perfumers, &c., to the very Excellent Quality of their Articles, which gained for them the HIGHEST POSSIBLE AWARD at the recent Sydney Exhibition.

Triple Extracts of Rare Fragrance, in all the favourite Odours, 1 oz., 16s.; 14 oz., 20s.; 2 oz., 28s.; 4 oz., 48s. per dozen; in Crown Stoppered, or Gilt Sprinkler Top, Bottles.

Floral Perfumes of great strength,  $\frac{1}{2}$  oz., 4s.; 1 oz., 8s.;  $1\frac{1}{4}$  oz., 12s.;  $2\frac{1}{2}$  oz., 16s. per doz.

The Crown Crystal Eau de Cologne, much superior to the German, 2\frac{1}{2} oz., 12s.; 4 oz., 18s.; 6 oz., 27s.; 8 oz., 36s. per doz. The Crown Tooth Paste, 8s. and 12s. per doz.

Opaline, the finest Face Powder known; packets, 3s. 6d. and 7s.; boxes, 15s. and 24s. per dozen.

Extra Scented Old Brown Windsor Soap, in boxes, 8s. and 12s. per dozen boxes.

The Crown Transparent Glycerine Soap, 8s. and 12s. per dozen boxes.

Highly Perfumed Toilet Soap, 8s. and 12s. per dozen boxes.

Pure Coal Tar Soap, 68s. and 78s. per cwt., wrapped, iu 7-lb. or 14-lb. boxes.

The Best of Disinfectants.

CATALOGUES FREE OI APPLICATION.

> OFFICES AND MANUFACTORY:

NEW FAIRFIELD WORKS, OLD BAILEY, WHERE ALL COMMUNICATIONS SHOULD BE ADDRESSED.

TESTIMONIAL TO

#### WILCOCKS. SODA WATER MACHINIST, STREET, BACK BATH.

From THOMSON & CO.,

Steam Aërated Water Works,
Bond and Crawford Streets, DUNEDIN; CHELMER STREET, OMARU; and SPIT, NAPIER.

To Mr. N. G. WILCOCKS.

Engineer,

BATH.

March 25th, 1881.

"Dear Sir,—We wish to convey to you, unsolicited, our appreciation and entire satisfaction with the Double Soda Water Pumps (large size) made by you and forwarded to us by Edgar Breffit & Co., London and Yorkshire. These reached Dunedin, per ship 'Zealandia,' in 1880, in splendid order and condition. We have had them working constantly six or seven months now, and for cheapness, durability and finish, combined with their strong carbonating power, we have seen nothing to equal them in 20 years' practical "We are, dear Sir, yours faithfully, "THOMSON & CO." experience.

Mr. Wilcocks can give numerous references to Pharmaceutical Chemists and others (which are kindly permitted) who use his make Machines, and will forward his Illustrated Price List, post free, on application.

#### Steam Engine and Boiler supplied for SOUTH AFRICA.

London, May, 1881. Dear Sir,—We are glad to inform you that the Steam Engine and Boiler, shipped by us to the Cape, in December last, still works well. Our client, in a letter just to hand, writes:—"You will be pleased to hear that the little Engine is still working beautifully; it is certainly a vast improvement on the hand power." Faithfully yours,

BURGOYNE, BURBIDGES, CYRIAX & FARRIES.

TO M. N. G. Wilcocks, Engineer Letter.

pro J. W. J. B. To Mr. N. G. Wilcocks, Engineer, Bath.

Emmanuel Street, Cambridge, May, 1880.

Dear Sir,—We have been using your "Eclipse" Filling Machine this eek. We find that it can fill the bottles very well.—Yours faithfully, week. We find that ... Mr. Wilcocks, Bath.

Anerley Road, Norwood, S.E., London, April 16th, 1881.

Dear Sir,—I have now had your Machinery in use for over six months, and as far as I can judge from workmanship is equal to the London makers, and at least 20 per cent. less in cost.

I shall be pleased to show my plant to anyone you like to refer to me.

Mr. N. G. Wilcocks, Bath.

Yours faithfully,
J. G. PREBBLE, Chemist.

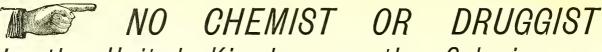
By Appointment.—W. E. STOKES, Chemist, Brompton, Kent, Established 1812, April, 1881. "Eclipse" Sola Filling Machine to hand, have tried it in two or three different Patent Bottles, and appears to answer admirably well.

Bell Street, off Pole Street,

From James Lund's Aërated and Mineral Water Manufactory. Dear Sir,—I have the pleasure to inform you that the Boiler, Engine and Soda Water Machinery, &c., I got from you give me every satisfaction, it works excellently and turns out first-class Aërated and Mineral Water.s To Mr. N. G. Wilcocks,

Yours truly,
Soda Water Machinist, Bath.

JAMES LUND.



in the United Kingdom or the Colonies, or throughout the Indian Empire, would fail to lay in a Stock of

if he once used it in his own Household, and so realised its invaluable property of preventing putrefaction and fermentative change in liquids and solid foods.

Try it on MILK and BUTTER to begin with, and you will never be without GLACIALINE.

TESTIMONIALS from all parts of the world, and from all Classes, including Nobility, Gentry, Clergy, Medical and Scientific Men, Business Men, &c., will be found in the Pamphlets, which will be forwarded on request.

GLACIALINE is sold in Elegant Canisters at 2s. 3d.; in Packets at 2s.

Sole Manufacturers and Patentees of GLACIALINE,

# THE ANTITROPIC COMPANY,

126 Renfield St., GLASGOW; and 20 Stamford St., Blackfriars, LONDON.



A delicious Nervine Tonic Beverage, Non-alcoholic, Stimulating, Invigorating, Refreshing. The original preparation, containing Hypophosphites. Superior in composition and effect to any other article of its kind. Is the most agreeable aerated beverage extant. Sells well wherever introduced. Bears a good profit.

Certificate of Composition by Professor ATTFIELD, F.I.C., F.C.S., F.R.S.

"London, 17 Bloomsbury Square, W.C., July 31, 1880.

"I have analysed samples of 'Sparkling Phosphade' sent to me by Messrs. IDRIS & COMPY., and find the statement made to me by them respecting its composition to be correct. Each ordinary bottle (small champagne) contains in perfect solution four grains of the Hypophosphites of Iron, Calcium, Sodium, and "JOHN ATTFIELD." Potassium, and Hypophosphorus Acid.

We guarantee that each bottle of "Sparkling Phosphade" is of the same strength and quality as that IDRIS & COMPY. analysed by Professor Attfield.

This Preparation obtained Honourable Mention at the

### INTERNATIONAL FOOD EXHIBITION, OCTOBER,

This being the Highest Award given solely for a Beverage of that class.

The Judges were Dr. John Tripe, Medical Officer of Health for Hackney; Dr. Hardwicke, Coroner for Central Middlesex; G. W. Wigner, F.C.S., Public Analyst for Woolwich, Plumstead, and Greenwich; and Dr. H. C. Bartlett, Ph.D., F.C.S.

#### "TIMES." EXTRACTS FROM THE

#### REPORT OF THE BREWERS AND MINERAL WATER TRADES EXHIBITION.

October 5, 1880.—" SPARKLING PHOSPHADE, shown on the stall of Messrs. IDRIS, appears to be free from the after Medicinal taste observable in some Tonic waters."

October 6, 1880.—From the speech of Mr. WALTER, M.P., at the Annual Meeting of the Royal East Berks Agricultural Association at Maidenhead:—

"He found the exhibition most instructive and amusing. There was an infinite variety of articles connected with the vast industry of brewing and the kindred industries of soda-water making, and, indeed, of the manufacture of all sorts of delightful beverages. Nobody could imagine what an amount of ingenuity was displayed in those manufactures.

"The hall, in short, was full of curious modern inventions, and he had had the opportunity there of tasting a beverage which was new to him, and for which we were, no doubt, indebted to the temperance people, but which he found so palatable that he had ventured to order a few bottles of it to be brought there that evening, which he would ask any of his hearers with confidence to try without fearing the imputation of being guilty of treating. The beverage was called SPARKLING PHOSPHADE."

Wholesale Prices in quantities of not less than 1 Gross (for cash):—Half-pint Seltzer Bottles, 2/6 per doz.; retail, 4/-. Small Champagne Bottles, 3/- per doz.; retail, 4/6. Large Champagne Bottles, 5/2 per doz.; retail, 7/6.

2d. per doz. additional in quantities of less than 1 gross.

Delivered free in London by our own Vans. Packed for the country in bin cases of 6 dozen small bottles or 3 dozen large. 1/- per dozen charged and allowed for bottles. Packing case, 6 dozen seltzer, 3/-; 6 dozen small champagne, 3/6; 3 dozen large ditto, 3/-. Carriage paid to the country on orders for 6 dozen small or 3 dozen large, if accompanied by remittance including bottles and cases. Full price allowed for bottles and cases if returned free in good condition.

#### AGENTS: WHOLESALE

London-Messrs. Barclay & Sons. Lynch & Co.

W. Best & Sons.

London-Messrs. S. Maw, Son & Thompson. | BIRMINGHAM-Messrs. Southall Bros. Herrings & Co.,

& Barclay. Exeter - Messes Evans, Gadd & Co.

IDRIS & COMPY., Manufacturers of Pure Mineral Waters of every description. Sole Proprietors and Manufacturers,

AGINCOURT WORKS, MANSFIELD ROAD, HAVERSTOCK HILL, LONDON, N.W.

GEORGE TREBLE

Druggists' Shops Fitted and Furnished complete with

FITTERS Fixtures, Bottles, Jars, Carboys, and

Specie Jars by contract.

Plans and Estimates

OFFICES

SHOW ROOMS-

72, 74, 76, 78, and 80 CRONDALL STREET.

Steam Works-

SHOP 44, 46, 48, 50 & 52 WHITMORE ROAD, & BRIDGE WHARF, REGENT'S CANAL.

Office for all Communications-

DRUGGISTS' ON, LONDON, N. 78 CRONDALL STREET, HO

KIDSTON'S New Illustrated List of Modern Show Cases and Shop Fittings post free.

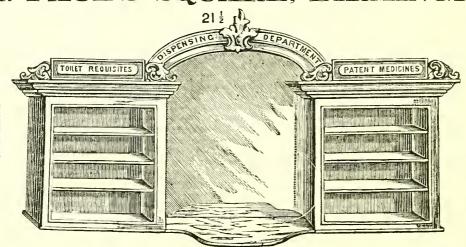


Full particulars of KIDSTON'S Prize Dispensing Counter forwarded upon application.

OF DRUGGISTS'

SQUARE, BIRMINGHA

Alass Knobs on the Doors, and is fitted with Three feet long, 29 inches to s, and 36 inches to top of



an be fixed again in an hour. Pacl, at a cost of 10s.. 3s. of which is kept, and the full value allowed

VALUATIONS EFFECTED. BUSINESS TRANSFER AGENT. Second-hand Fixtures for Sale, Jars, Globes, Drawers, Bottles, Counter Glass Cases, Shelves, &c. SECOND-HAND FIXTURES OF ALL KINDS BOUGHT AND EXCHANGED.

R. T. will wait upon parties fitting up, to plan and advise. 2nd-class fare only charged. FOR SALE, FIXTURES FOR SHOP ABOUT SIXTEEN FEET BY TWELVE. WRITE FOR LIST.

# THE CONDY'S FLUID CASE.

### TWO APPEALS.

#### CONDY V. MITCHELL.

(The question of Proprietary Right.)

COURT OF APPEAL, LINCOLN'S INN, Nov. 27th, 1877—CONDY, Appellant.

LORD JUSTICE JAMES (without needing to hear Defendant's Counsel) said—That such a suit should have been instituted at all was very remarkable; but that, after the learned Vice-Chancellor's judgment, this appeal should have been brought on was particularly strange. Dr. Mitchell had obtained his right by payment of a substantial money consideration, and Condy's Fluid and Condy's Ozonised Water were as much his property as the Plaintiff's, WITH ALL THE REPUTATION THERETO ATTACHED, PRIZE MEDALS INCLUDED. Having that right, Dr. Mitchell was entitled to set up the Condy's Fluid Company.

LORD JUSTICE BAGGALLAY was of the same opinion. The style of the partnership had been "Bollman Condy & Co.," and the plaintiff had set up in his own name of "H. Bollman Condy." It was not necessary to consider whether he could have been restrained from doing so; but he came with a very bad grace against the defendant. It was to be regretted that the plaintiff had resorted to the method he had used to obtain evidence. HE HAD RESORTED TO WHAT WAS, IN FACT, A TRAP TO CATCH CHEMISTS.

LORD JUSTICE THESIGER was also of that opinion, and especially as to the character of the plaintiff's (Condy's) evidence.

LORD JUSTICE JAMES: APPEAL DISMISSED WITH COSTS.

#### MITCHELL V. CONDY.

(The Partnership Accounts of the late Firm of Bollmann Condy & Co.)

COURT OF APPEAL, LINCOLN'S INN, May 18th, 1881—CONDY, Appellant.

The MASTER OF THE ROLLS, in delivering judgment, said:--I am at a loss to understand the ground of this appeal. The bargain between the parties, elearly set out in the Partnership Deed, was this: The one (Mitchell) to pay a premium of £1,500, and to bring into the partnership £1,500 more; the other (Condy), who had, he said, eapital sunk in the business, to have his said eapital taken at the sum whereat it stood in March, 1866, namely, £2,496. There is not the slightest doubt or ambiguity about the matter, and so the Vice-Chancellor decided. The deeree for the partnership accounts to be taken was made so long ago as the 15th June, 1877. It was made on the admission by the defendant (Condy) of the Articles of Partnership, and without a hint being thrown out that there was anything erroneous in them requiring revision or alteration. The suggestion which has been made on the part of the defendant (Condy), that a man who had entered into partnership may plead that he is taken by surprise when his partner insists on the plain terms of the Partnership Deed being held to be binding, eannot for a moment be listened to. This appeal must be dismissed.

LORD JUSTICE JAMES: I entirely eoncur. The attempt that has been made to seek to control or nullify the provisions of so formal an instrument as a Deed by reference to anterior conversations and memoranda is very idle.

LORD JUSTICE LUSH: I am quite of the same opinion. In the statement of defence, from the beginning to the end, there is not a suggestion that the Articles of Partnership were ever departed from, by parol or otherwise, so as to concede to the defendant (Condy) an increase in the estimate of his capital beyond the amount specified in the Deed.

The MASTER OF THE ROLLS: APPEAL DISMISSED WITH COSTS.

N.B.—The CONDY'S FLUID COMPANY are determined to put a stop to the underhanded attempts made to pass off goods bearing labels and names of firms fraudulently resembling theirs. The Company beg to bring this practice to the notice of the trade, to whom they would feel obliged for information leading to detection.

Reduced Trade Prices, and most liberal Wholesale Terms.

THE CONDY'S FLUID CO.,

### W. H. BAILEY & SON,

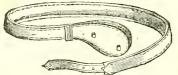
STREET, LONDON. ESTABLISHED A.D. 1833.

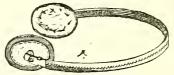


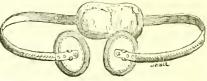
Super.

Cotton.

FIRST PRIZE (SILVER MEDAL) FOR TRUSSES AWARDED BY THE WORSHIPFUL COMPANY OF CUTLERS OF THE CITY OF LONDON, MAY 1879, FIG. 1. FIG. 4.







TRUSSES.	SUSPENSORY BANDAGES-continued.
Circular Trusses, single, as Fig. 1, basil and chamois or basil and	No.
moleskin	6. Silk Oxonian, superior quality, bands of buff jean, with drawing-strings per doz. £
per doz. 1 14 0	
	8. ,, ,, under-straps to button ,,
Salmon & Ody's Expired Patent, single, Fig. 4 , 110 0	
Moc-Main Lever, single, double, Fig. 5, 3 0 0	
	Manufactured expressly for Ex-
Coles's Expired Patent, single	1 . 1 -1/
Scrotal Trusses, basil and chamois or moleskin, single , 0 10 6	to distance of the same of the
" " " double " " O 7 0	$\pounds$ s. d. $\pounds$ s. d. $\pounds$ s. d.
SUSPENSORY BANDAGES.	Stockings pair 0 9 0 0 13 6 0 5 3 0
No.	Knee-caps ,, 0 6 0 0 9 6 0 3 6 0 Calf-pieces ,, 0 6 8 0 9 0 0 4 0 0
1. Cotton Bags and tape under-straps per doz. 0 8 0 2. Cotton Oxonian, with drawing-strings	Socks 0 5 0 0 7 6 0 3 3 0
3. Silk Bags and tone under strong	Wristbands ,, 0 2 0 - 0 1 6 0
4. Silk Oxonian, with drawing-strings 0 18 0	Rice blockings
5. " Bags bound with elastic " 1 4 0	Belts, to draw oneach 0 15 0 1 1 0 - 0

The above may be obtained direct from the Manufacturers, or from their Wholesale and Export Agents, Messrs. Barclay & Sons, 95 Farringdon Street.

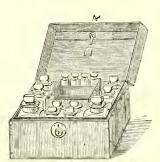
# MEDICINE CHESTS.

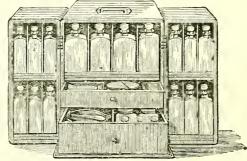
MEDICINE CHEST MANUFACTURER,

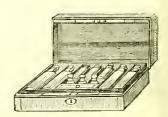
DANBY STREET, PECKHAM, LONDON, S.E.

REMOVED FROM

4 FEATHERSTONE BUILDINGS, HOLBORN, LONDON, W.C., ESTABLISHED 1875.







A. H. S. invites attention to his ILLUSTRATED CATALOGUE AND PRICE LIST, containing nearly 100 Designs, which is forwarded post free upon application.

N.B .- Always having a Large Stock on hand any Chest shown in the Book of Illustrations may be obtained immediately by quoting the number of the Design by Post or Telegram. Medicine Chests of all descriptions made to order.

LIBERAL TERMS TO WHOLESALE HOUSES EAST INDIA AND COLONIAL AGENTS, ETC., ETC

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THE "BURROUGHS" PREPARATIONS.

JOHN WYETH & BRO., MANUFACTURING CHEMISTS, PHILADELPHIA.

LANMAN & KEMP. M. & L. FLORIDA WATER, NEW YORK.

FELLOWS & CO., NEW YORK.

AMER. JOURNAL PHARMACY, PHILADELPHIA.

S.M. BURROUGHS

BURROUGHS, WELLCOME & Co

Importers, Exporters, 🗢 Manufacturing Chemists

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ONDON.

ORDERS FOR SPECIAL PURCHASES OR IMPORTATIONS MUST BE ACCOMPANIED BY REMITTANCE.

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McKESSON & ROBBINS, MANUFACTURING CHEMISTS, &c., NEW YORK.

KEPLER MALT EXTRACT CO.

NUBIAN MANUFACTURING CO.

SYMES & CO., MANUFACTURING CHEMISTS, LIVERPOOL.

WEEKS & POTTER, WHOLESALE DRUGGISTS, BOSTON.

THE PHARMACIST AND CHEMIST. CHICAGO.

The Most Popular Perfume in the World.

### MURRAY & LANMAN'S FLORIDA WATER.

Distilled direct from the petals of the choicest and most fragrant flowers of tropical "Florida."

SUPERSEDES ALL OTHER TOILET For the Handkerchief, Toilet, and Bath.

INFINITELY SUPERIOR TO EAU DE COLOGNE.

AMERICA'S FAVOURITE FOR NEARLY THREE QUARTERS OF A CENTURY.

Now the delight of the Refined and Cultured in every country of the civilised world.

When mingled in the water of the bath, or freely inhaled and

applied to the temples and hands, or if sprinkled or sprayed over the person, it reinvigorates, inspires, and tones up to wonderful buoyancy both the mind and hody, and imparts to the whole

atmosphere of the room the delections natural fragrance of a blooming tropical flower garden. Refreshing in the sick room; a boon to fatigued travellers; dispels headache.

27s. per dozen. Special prices by the gross, duty paid and in bond.

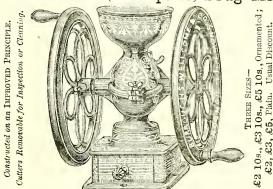
The "Burroughs" Beef and Iron Wine

Each half-fluid ounce or tablespoonful represents the nutritive value of I ounce of good Fresh Beef with 1 grain of Iron, in a pure Medicinal Wine. Adult Dose—One tablespoonful in a little water. Supplied in 1-1b. and 1-lb. Bottles. Price, 32s. and 57s. per dozeu.

Hazeline (Burroughs).

Active principles distilled from the Bark of Witch Hazel (Hamamelis Virginica Lin.). A superior Surgical Dressing. The most concentrated and efficacious product of the Hazel. Price, iu \(\frac{1}{2}\)-lb. and lb. Bottles, 14s. and 40s. per dozen.

### The American (Enterprise) Drug Mill.



This Mill can be regulated to grind to any degree of fineness or coarseness required, and, hy the mere turning of a thumb screw, can be opened, and the Cutters removed in a minute. The form of the Cutters is designed so as to crush and reduce to powder almost any substance, effectually and quickly, at the same time that the cuttiog edge is never destroyed, thus saving the expense of re-cutting, incident to the ordinary Mill.

Professor Maisch, Philadelphia Col. Pharmacy, U.S.A., says:—"The best Mill that has been devised. One of the prominent advantages is the facility with which the internal working parts can be viewed by simply turning one screw."

Kepler Cod Liver Oil with Extract of Malt.

A CONCENTRATED, NUTRITIOUS, DIGESTIVE FOOD.

(Contains 50 per cent. Extract of Malt.)

"The taste of the Oil is agreeably disguised. Its nutritive powers are greatly increased, and it is rendered easy of digestion."—Brit. Med. Journal.
Adult Dose—One tablespoonful thrice daily, plain, or in a little milk or any agreeable liquid. Supplied in Bottles, \( \frac{3}{4} \) lo. and \( 1\frac{1}{2} \) lb.

A New Device. BURROUGHS WELLCOME STEE andLUNDON. THE ENTERPRISE TINCTURE PRESS. specially adapted for fbrous drugs. Simplest, CHARLES SYMES, Ph.D., says : - "For the CHARLES SYMES, Ph.D., says:—"For the marc of tincture of opium, orange peel, cardamoms, hops, squills, artichoke, lobelia, and such-like substances, nothing better could he desired. The continuous layer operated on is much thinner than in the ordinary press, and the force applied is uniform and considerable."

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WYETH'S Chilorate of Potash, 5 grs.; Chilorate of Potash and Borax (Voice Tahlets), 2½ grs. of each; Soda Mint (or Neutralising Tablets); Potash, Bi-Carb., 5 grs.; Soda, Bi-Carb., 6 grs.; Ammovia, Chiloride, 5 grs.

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A pure neutral solution of peroxide of Iron in the colloid form; each fluid oz. contains 27:68 grs. (R. Fer. Wyeth 3 fld. oz. with Dropper.)

Mr. Thomas Bryant writes:—"I consider Wyeth's Iron the Best, and always prescribe it."

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able liquid, or on a lump of sugar.

"A Concentrated Nutritious, Digestive, and Agreeable Food."

#### KEPLER EXTRACT MALT.

CONCENTRATED IN VACUO, AND FREE FROM ALCOHOL.

The Principles of Malt Extract are-

One Fluid Ounce of this Extract contains more of the valuable properties of Malt than a quart of the best Ale or Stout.

Ziemssen's Cyc'opædia of Medicine says :- "Malt Extract is preferable to Cod Liver Oil, heing more palatable and more easily digested.

The Medical Times and Gaze'te says:—The Kepler Malt Extract is deserving of special commendation. Dr. W. Roberts, of Manchester, places it first on the list of Malt Extracts he had found reliable, and containing proper amount of diastase, and possessing the property of digesting starchy foods.

Professor Yandell, of the University of Louisville, U.S.A., says:—"The 'Kepler' Malt Extract is the hest, and has the finest flavour of any I have ever seen. It is a very valuable preparation."

The Lancet says :- "Very good, and may be used with confidence."

Dr. Gusman, of Stuttgart, declares that Malt Extract has rendered excellent service in diseases of the lungs, stomach, bowels, and throat—as consumption, dyspepsia, defective nutrition, bronehitis, and chronic catarrh.

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Through improved arrangements for Manufacturing the "Sanitary Tow PACKETS OF ONE DOZEN AT THE REDUCED PRICE OF 28. Towels," they are now offered in PORTABLE

PER This Price will bring them within the reach of all classes for general use.

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See "CHEMIST AND DRUGGIST," December 15th, 1874.

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#### PHOSPHORISED COD-LIVER OIL.

Was introduced to the Profession by Messis. SAVORY & MOORE.

The advantage of this (the ORIGINAL) preparation over the imitations of it consists in the ability to administer a SUFFICIENT dose of Phosphorus without the admixture of a Large quantity of Cod-liver Oil.

Dose, 1 to 2 drachms. Supplies in bulk or small bottles.

#### THE FINEST COD-LIVER OIL.

Is not only the PALEST in colour, but it is the Purest and the Most Palatable kind in use.

In Half-pint, Pint, and Quart Bottles.

#### PANCREATIZED (DIGESTIVE) COD-LIVER OIL.

By combining the Pancreatic Juice with the Oil, the digestion of the latter is easily and rapidly effected, nausea is prevented, and the beneficial properties of the Oil are increased.

Dose, 1 to 4 drachms.

### COD-LIVER OIL.

Combined with Alkaloids, Medicinal

Salts, and other important substances,

capable of solution in Cod-liver Oil.

#### PANCREATINE (In Powder or Granules),

Represents the active principle of the Pancreatic Juice, by which Fat and Oils are digested and assimilated. Dose, 3 to 5 grains.

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An excellent vehicle for taking Codliver Oil, and promoting the digestion of it.

Dose, 1 drachm.

### PEPSINE PORCI

#### PEPSINE WINE.

Supplied in Bulk or Small Bottles. "The Pepsine prepared by your process is possessed of considerably more digestive power than that of any other description of Pepsine."

DR. LETHEBY.

#### PEPTODYN.

A combination of the whole of the Digestive Secretions—Pepsine, Pan-creatine, Diastase, or Ptyalin, &c., forming a valuable remedy in all forms of Dyspepsia, and diseases arising from imperfect nutrition.

Dose, 3 to 5 grains. Bottles, 2/9,4/6, and 11/.

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General Post Office.

An index to the advertisements will be found on page 33%.

#### Piterary Contents.

PAGE	PAGE
Month 321	Editorial Notes 346
uternational Pharmaceutical	The International Pharma-
Congress 322	ceutical Congress 346
Address of Welcome 322	British Pharmaceutical Cou-
List of Delegates 323	ference 347
Equalisation of Strength	A Compulsory Curriculum 347
of Official Pharmaceuti-	Expurgation of the Dentists'
cal Preparations 324	Register 349
Revision of the Pharma-	Patent Medicines in Belgium 319
copœia 326	Viscount Sherbrooke on the
Presentation of the Han-	Bankruptcy Laws 349
bury Medal 327	Railway Rates Committee—
Pharmaceutical Education 328	Chemical Evidence 350
Relations of Pharmacis's	Provincial Reports 354
to the Medical Profession	Poisoning Cases 355
aud the Public 330	Legal and Magisterial 356
Concluding Address 330	Eno's Advertisements 356
uternational Medical Congress 332	Sale of Lime water 356
Pharmaceutical Council 334	Malt Extract in Chancery 357
A Pharmaceutical Curricu-	Bankruptcies and Liquidations 357
	Scientific Notes 357
lum	Method of Determining
cal Congress 337	
Chemists and Druggists' Trade	Testing Butter for Water 358 New Cinchona Bark Field 359
Association	
Pharmaceutical Society of Ire-	
land	"Remington" Pharmaceuti-
Hydrobromic Acid, by William	cal Still
Gilmour 339	Cheap Oxygen349
Leech-farming in America 340	Trade Notes
Medical and Sanitary Exhibi-	Miscellancous Formulæ 361
tion	Medical Gleauings 362
List of Awards 343	Trade Report 362
The Smyrna Opium Market 345	Mouthly Price Current 363
New Zealand Pharmaceutical	Exchange Column 365
Society	Correspondence 367

#### PUBLISHER'S NOTICE.

Our next number will contain the usual Educational Information for Pharmaceutical, Medical, and Scientific Students. We shall be glad to be furnished with prospectuses early, and also with advertisements suitable for that number. We shall also report in that number the meeting of the Pharmaceutical Conference at York.

Mr. O. V. Morgan, one of proprietors of this journal, is at present travelling in the Australian colonies, and may be communicated with by addressing to the care of the Bank of New South Wales, Brisbane or Melbourne.



The chief pharmaceutical event of the month has been the holding of the fifth International Pharmaceutical Congress in London. Delegates from all parts of the world attended this Congress, which has been by far the most successful of any of the series. The practical result of the session has been the formation of an International Pharmacopæial Commission, authorised to draft a scheme for submission to the next Congress at Brussels, three years hence, to equalise the strength of potent medicines in all national Pharma-

copœias. The Pharmacological Section of the International Medical Congress, also held in London during the past month, has agreed to the appointment of a Commission of medical men to work with the pharmacists in this object.

The International Pharmacopæial Commission appointed by the Congress met at the rooms of the Pharmaceutical Society on the 5th inst., and elected Mr. A. von Waldheim, of Vienna, as president, and Dr. Goddefroi as secretary of the Commission. They will draw up a preliminary scheme, and, after obtaining the criticisms and suggestions of the other members of the Commission, will prepare a formal draft of the proposed international formulary for submission to the next Congress at Brussels.

The Pharmaceutical Council have unanimously voted a general approval to the conclusions of the Committee appointed to investigate the relations of pharmaceutical education to pharmaceutical examinations. The general effect of those conclusions is that the institution of a compulsory curriculum for pharmaceutical candidates is desirable.

The Use and Sale of Poisons Bill, which, as we mentioned last month, had been introduced into the House of Lords, and which would have brought hellebore, butter of antimony, sulphate of copper, the acids, &c, into the first part of the poison schedule of the Pharmacy Act, has been withdrawn for the present. A deputation from the Council have had interviews with the Duke of Richmond and Mr. Chaplin, who had prepared the Bill for the Lincolnshire Agricultural Association, and, it is understood, have expressed their willingness to accept the Bill if the poisons are transferred to the second part of the schedule.

We report some features of the interesting Medical and Sanitary Exhibition which has been held at South Kensington during the month, and we give a list of the awards in several sections. Those for the pharmaceutical section have been delayed for a long time, in consequence of disagreement among the judges. We believe they were made known on the 13th inst., but up to the hour of going to press we have not received them.

A paper of pharmaceutical value, by Mr. Wm. Gilmour, of Edinburgh, on "Hydrobromic Acid," will be found on page 339.

The British Dental Association have obtained from Sir John Holker an opinion opposed to that of the Solicitor-General, upon which the Medical Council resolved to admit the claim of certain chemists' assistants to register as dentists. The Association wish the Council to remove a name from the register, so that the issue may be tried if the person selected for the experiment should choose, but the Executive Committee of the Medical Council have declined to adopt such an obviously unjust course.

Invitations have been issued to the Pharmaceutical Conference at York, which is to take place on August 30 and 31, under the presidency of Mr. Richard Reynolds.

We print on page 350 the evidence given before the Railway Rates Select Committee by Mr. Peter Spence, in special reference to the carriage of chemicals. This was in type last month, but was unavoidably held over.

Several chemists have been fined at Nottingham, under the Sale of Food and Drugs Act, for the sale of lime-water not of Pharmacopæial strength.

A gentleman has been killed at Limerick by taking a draught of carbolic acid, which had been supplied to him in mistake for a black draught from a pharmacy of the city. The assistant had taken it from a bottle labelled "Mist. sennæ co.," but the porter had in mistake filled that bottle with carbolic acid.

### International Pharmaceutical Congress.

HELD IN LONDON AUGUST, 1881.

THE fifth International Pharmaceutical Congress has proved a grand success. It began on Monday, August 1, and ended on Wednesday afternoon, August 3. The meetings took place at the Society's rooms in 17 Bloomsbury Square, the whole of the premises having heen thrown open for the accommodation of the visitors and memhers. It is hardly fair to reiterate the statement that the four preceding Congresses, held respectively in Brunswick, Paris, Vienna, and St. Petershurg, were either less attended or excited little interest in England, for all things must have a heginning, and we know how hard it is to enlist public opinion in any new undertaking. These previous gatherings paved the way for larger operations, and our own Executive Committee must be abundantly satisfied with the result. Few can know the amount of preliminary labour and the work involved in making necessary arrangements for so important an assemblage, and that matters have turned out so well is due to the unceasing care that has been bestowed upon the details of organisation.

Saturday, July 30, was the only available day for the formal reception of the foreign guests: they were then to exchange their invitation cards for coupons admitting them to the various excursions and entertainments, and an opportunity was offered for them to make any inquiries they might desire.

They arrived at first in small detachments, and the majority made their appearance during the course of the evening at the conversazione. Each one, on submitting his credentials, was presented with a copy of Charles Dickens' "Guide to London," the "Historical Sketch of Pharmacy," and the official publications of the Society. A very respectable number of English pharmacists were assembled to greet their distinguished guests; the scene was as animated as it was novel, and it was clear that the "confusion of tongues" formed no harrier to the diffusion of ideas. It is to be hoped that some of our younger brethren will he stimulated into a hetter acquaintance with Continental languages, seeing that so many of those who honoured London with a visit did not stand in the slightest need of an interpreter.

Whatever anxiety might have been felt by the Executive must have been dispelled the moment the proceedings opened on the morning of Monday. There was a large attendance, in the midst of which the foreign delegates were conspicuous. Precisely at 11 o'clock, Mr. Thomas Greenish, the President of the Pharmaceutical Society of Great Britain, took the chair, and read the following brief address of welcome:—

Honoured and esteemed Colleagues,—On behalf of the Pharmaceutical Society of Great Britain and the pharmacists generally of this country, I tender you a hearty welcome to the shores of our "sea-girt island" on the present occasion of the meeting of the fifth International Pharmaceutical Congress.

Strangers, for the most part, personally to each other, yet following, though under different conditions, the same art, we may claim to he united by one common hond—the advancement of true pharmacy.

Though pharmacy is at the present time conducted in different countries under somewhat different conditions, so far as regards the laws which govern its practice, there are, nevertheless, many subjects in regard to which discussion by such a representative hody of pharmacists as is now assembled at this Congress must result in valuable suggestions for the further development of our art.

It is with sincere joy that I greet you, and I avail myself of this opportunity to express the satisfaction afforded to the pharmacists of Great Britain by the very general response to the Congress invitation, and by the cordial sympathy with the objects in view expressed by those who have been unable to participate in the work.

In meeting together to exchange the results of practical experience, we approach nearer to each other in fraternal intercourse, and, whilst advancing by another step the art of pharmacy, we are aiding medical science in relieving human

suffering.

During nearly half a century this lecture theatre has seen many gatherings for various purposes, but not one possessing the same interest or importance as the Congress now filling it, to the foreign memhers of which every British pharmacist extends the hand of fellowship and a hearty welcome.

Copies of this address were in the hands of those present at the meeting, in English, French, and German. All the subsequent papers were similarly translated ready for immediate reference, Mr. Joseph Ince and Mr. II. Greenish having

had this task assigned to them.

The subjoined specimens of the translations provided will interest some readers:—

DISCOURS DE BIENVENUE PRONONCÉ PAR LE PRÉSIDENT DE LA SOCIÉTÉ DE PHARMACIE DE LA GRANDE-BRETAGNE.

Très honorés Confrères,—Je viens au nom de la Société de Pharmacie et des Pharmaciens de la Grande-Bretagne vous souhaiter cordialement la bienvenue, et vous dire combien nous sommes heureux de vous accueillir dans notre île à l'occasion de la Réunion du Cinquième Congrès International de Pharmaeie.

Quoique nous n'ayons pas eu jusqu'à présent l'avantage de vous connaître personnellement, nous suivons tous la même carrière: nous sommes unis par le même lien, l'avancement de la pharmacie.

Quoique la pharmacie des différents pays ne se pratique pas selon les mêmes formes déterminées par la loi, hien des questions s'élèvent cependant dont la discussion parmi les membres d'un Cengnès tel que le notre ne peut que produire

des résultats précieux.

C'est avec grand plaisir que je vous offre mes félicitations, et je profite de l'occasion pour vous exprimer comhien les pharmaciens de la Grande-Bretagne sont reconnaissants I our la réponse si généreusement accordée à l'invitation du Congrès, et pour la sympathie cordiale de ceux qui n'ont pas pu assister à cette réunion. En nous réunissant ainsi pour discuter et pour comparer les résultats tirés de l'expérience pratique, nous approchons de la fraternité, et tout en faisant avaneer l'art de la Pharmacie nous venons à l'aide de la science médicale pour soulager les souffrances humaines.

Durant près de cinquante ans cette salle a vu de nomhreuses réunions, mais pas une possédant le même intérêt ou la même importance que l'assemblée qui la remplit aujourd'hui, et à laquelle chaque pharmacien anglais tend la main en signe de fraternité et de bon accueil.

BEWILLKOMMYUNGSREDE VON DEM PRÄSIDENTEN DER BRITISCHEN PHARMACEUTISCHEN GESELLSCHAFT.

Hochgeachtete und geehrte Herrn Collegen,—Im Namen der britischen pharmaceutischen Gesellschaft und überhaupt der Pharmaceuten dieses Landes heise ich Sie, bei Gelegenheit der Zusammenkunft des fünften internationalen Congresses, den Küsten unserer "meerumschlungenen Insel" herzlich willkommen.

Einander meistentheils fremd, doch, obgleich unter verschiedenen Umständen, dieselbe Kunst ühend, dürfen wir hehaupten, dass ein gemeinsames Band, die Förderung

wahrer Pharmaeie, uns vereinigt.

Obgleich die Pharmacie, hezüglich der sie regulirenden Gesetze, augenblicklich in verschiedenen Ländern unter verschiedenen Umständen ausgeübt wird, doch giebt es viele Gegenstände, welche, einer repräsentirenden Versammlung von Pharmaceuten wie dem heutigen Congresse zur Discussion vorgelegt, für die Förderung unserer Kunst werthvolle Vorschläge zur Folge hahen müssen.

Mit aufrichtiger Freude hegrüsse ich Sie, und ich benutze

diese Gelegenheit um Ihnen das Vergnügen bekannt zu machen, mit welchem die Pharmaceuten Grossbritanniens die sehr allgemeine Erwiederung zur Einladung zum Congresse, und den Ausdruck herzlicher Theiluahme an den beabsichtigten Zwecken von denjenigen die sich an der Arbeit nicht haben betheiligen können, betrachten.

Indem wirzusammenkommen um die Resultate praktischer Erfahrung auszutauschen, nähern wir uns einander in brüderlichem Verkehr, uud, während wir in der Kunst der Pharmacie noch eineu Schritt weiter machen, hülfen wir der Wissenschaft der Medicin die Leiden der Menschenheit zu

lindern.

Im Laufe von fast einem halben Jahrhundert hat dieses Auditorium viele zu verschiedenen Zwecken zusammengerufenen Versammluugen gesehen, aber noch hat keinc dasselbe Interesse oder dieselbe Wiehtigkeit besesseu, wie der es jetzt füllende Congress, dessen ausläudisehen Gästen jeder britische Pharmaceut in Freundschaft die Hand reicht und herzlich willkommen heisst.

The SECRETARY (Mr. Richard Bremridge) then read the following

#### REPORT OF THE EXECUTIVE COMMITTEE.

In October, 1874, the Council of the Pharmaceutical Society resolved that the International Congress should be

invited to hold its next meeting in London.

In August, 1880, the Council of the Pharmaceutical Society of Great Britain requested one of its standing Committees to make arrangements for the reception of the International Pharmaceutical Congress on the occasion of its visit to London, in August, 1881. At the suggestion of that Committee, a Special Executive Committee was appointed in April, 1881, to complete the arrangements.

In November, 1880, letters were addressed to the Presidents of pharmaceutical societies and distinguished pharmacists in all countries, asking for the names of persons interested in pharmacy to whom invitations to the Congress should be sent. In due course replies were received, and about 400 invitations to attend the Congress were then issued. The presidents of provincial pharmaceutical associations, and others interested in pharmacy, were also invited to co-operate.

In reply to this invitation many foreign societies decided to send delegates, and the following is a list of those who have announced their intention to attend the Congress from

The following communications have been received and accepted by the Committee, to be brought before the Congress.

[A list of the delegates present and the communications received appears further on.]

It is a source of satisfaction to be able to report that the most cordial wishes for the success of the Congress were expressed by all those who were unable to attend.

Efforts have been made to obtain a concession from the principal railway companies on the Continent of Europe in favour of members of the Congress, and have met with considerable success.

It has been decided that the language of the Congress shall be English, but provision has been made for transla-

tions into French and German.

By the courtesy of the respective authorities, the Committee has been enabled to obtain for visitors to the Congress admission to the Gardens of the Royal Botanic and Zoological Societies, the International Medical and Sanitary Exhibition, and the Horticultural Gardens, South Kensington. The privilege of admission has also been granted by the respective authorities to the Royal Arsenal, Woolwich, at times to be arranged by the Secretary to the Executive Committee, and to Kew Gardens between ten and one in the morning, before they are opened to the general public.

The Committee has received a letter from Mr. Stacey, inviting the members of the Congress to a garden party at his house. The Committee was, however, owing to other

arrangements, unable to accept it.

The programme of arrangements which the Committee has made for the Congress is already in the hands of the members.

The Congress is constituted as follows:—

a. The existing members of the Congress—i.e., the President, Vice-Presidents, and Secretaries.

b. The President, Vice-President, past and present members of the Council, Boards of Examiners, and other officers of the Pharmaceutical Society of Great Britain.

c. The President, Vice-President, past and present members of the Council, Board of Examiners, and other officers of the Pharmaceutical Society of Ireland.

d. All duly-accredited foreign visitors to the Congress.

c. The President and Vice-Presidents of the British Pharmaceutical Conference.

f. The President and Vice-President of the Trade Association of Great Britaiu.

q. The Presidents or delegates of other pharmaceutical associations.

The above to have power to appoint officers and elect members of the Congress.

It is gratifying to the Committee to be able to report that the number of distinguished pharmacists who have expressed their intention of coming from all parts of the world indicate that the fifth International Pharmaceutical Congress will be more numerously attended, and more influential, than any of its predecessors.

Mr. MICHAEL CARTEIGHE then read over a list of foreign delegates, most of whom answered to their names, and a few others in the course of the afternoon at the adjourned meeting. The correct list of delegates and other visitors is as follows :--

BAIER, A., Buda-Pesth, Hungary, member of the General Hungarian Pharmacopolist Association; delegate from that Associatiou.

BAKER, G., Rome.

BLOTTIÈRE, C., Paris, General Secretary to the Société de Prévoyance des Pharmaciens de la Seine; delcgate from that Society.

Böttger, H., Bunzlau, editor of the Pharmaceutische Zeitung.

BRUNNENGRABER, CHR., Rostock, President of the Deutscher Apotheker-Verein; delegate from that Society.

BURK, C. H., Stuttgart.

CHAMPIGNY, A., Paris, Honorary President of the Société de Prévoyance des Pharmaciens de la Seine; delegate from that Society. CHAMPIGNY, F., Paris.

CRANWELL, WM. B., delegate from the Sociedad de Farmacia Nacional Argentina.

CORNELIS, L., Diest, President of the Association Générale Pharmaceutique de Belgique; delegate from that Society.

DAENEN, EGIDE, Brussels, Secretary and Treasurer to the Association Générale Pharmaceutique de Belgique.

DE CESARIS, LUIGI, Rome, delegate from the Collegio Chemico Farmaceutico di Roma and the Associazione Chimico-Farmaceutica di Previdenza in Firenze.

Desnoix, E., Paris, President of the Société de Prévoyance des Pharmaciens de la Seine; delegate from that Society.

DETHAN, ADHÉMAR, Paris, Vice-President of the Société de Prévoyance des Pharmaciens de la Scine; delegate from that Society.

DE VRIJ, J. E., The Hague.

DITTRICH, JOSEF, Prague, delegate from the Pharmaceutische Gesellschaft

ECKELL, W. F. W., Christiania, delegate from the Farmaccutisk Selskab i Norge.

FERRAND, EUSÈBE, Paris, delegate from the Association Générale des Pharmaeiens de France.

FORD, WILLIAM H., Melhourne, delegate from the Pharmaceutical Society of Victoria.

GILLAUME, JEAN FRANÇOIS, Paris.

GILLE, NORBERT, Brussels, delegate from the Belgian Government, the Société Royale des Sciences Médicales et Naturelles de Bruxelles, the Société de Pharmacie d'Anvers, and the Union Pharmaceutique de Charleroi.

Godeffroy, R., Vienna, delegate from the Allegemeiner Oesterreichischer Apotheker-Verein.

HANSEN, G., Christiania, President of the Pharmacentisch Forening, Christiania.

HOFFMANN, FRED., New York.

JACOBI, R., Elberfeld.

Jonas, A., Brussels, delegate from the Société Royale de l'harmacie de Bruxelles.

LAMURY, ADOLPH, Mons, Treasurer to the Cercle Pharmaceutique du Hainaut; delegate from that Society.

Lotze, G., Odense, President of the Danmarks Apotheker-forening; delegate from that Society.

MARTENSON, I., St. Petersburg, President of the Allerhöchst hestätigte Pharmaceutische Gesellschaft zu St. Petershurg; delegate from that Society.

MADSEN, H. P., Copenhagen, President of the Kjöbenhavns Apothekerforening; delegate from that Society.

MEHU, C., Paris, delegate from the Société de Pharmacie de Paris, and the Académie de Médecine.

NICKLÈS, ADR., Benfeld.

OLDBERG, OSCAR, New York, delegate from the New York State Pharmaceutical Association, and the New York College of Pharmaey.

Patrouillard, Ch., Gisors, Eure, delegate from the Société de Pharmacie

Petit, Arthur, Paris, President of the Societé de Pharmacie de Paris; delegate from that Society, and from the Societé des Pharmaeieus de

POEHL, A., St. Petershurg, delegated by the Minister of the Interior of the Russian Government; Secretary to the Allerhöchst bestätigte Pharmaceutische Gesellschaft zu St. Petersburg; delegate from that Society.

PUTSAGE, JULES, Mons, President of the Cercle Pharmacentique du Hainaut; delegate from that Society.

Rehe, J. W., Cologne, delegate from the Deutscher Apotheker-Verein. REYNAUD, JULES, Paris.

SAUTER, A., Geneva, member of the Schweizerischer Apotheker-Verein. SCHACHT, CARL, Berlin, delegate from the Verein der Apotheker Berlins. SEBARDT, WILHELM, Stockholm, President of the Apothekare Societeten; delegate from that Society.

SINIMBERGHI, NICOLA, Rome, special delegate from the Minister of Public Instruction for Italy; delegate from the National Italian, Umbra, and Milan Pharmacentical Societies.

SQUIRE, FRANK R., San Remo.

STOLL, ROBERT, St. Petersburg.

TÖRÖK, JÓZEF, Budapesth, Hungary, member of the General Hungarian Pharmacopolist Association; delegate from that Association.

TRNKÓCZY, JULIUS, Laibach.

VERHASSEL, HENRI, Anvers, delegate from the Société de Pharmacie d'Anvers.

WALDHEIM, A. VON, Vienna, delegate from the Allgemeiner Oesterreichischer Apotheker-Verein, Wien.

WARD, M., Brisbane, delegate from the Queensland Pharmacentical Society.

The following have also attended as delegates from Ireland :-

ALLEN, W. N., Dubliu, delegate from the Pharmaceutical Society of Ireland. COLLINS, THOMAS, Dublin, delegate from the Apothecaries' Hall of Ireland. DRAPER, H. N., Duhlin, delegate from the Pnarmaceutical Society of

DUFFEY, G. F., Dublin, delegate from the King's and Queen's College of Physicians, Ireland.

GRINDLEY, G. H., Duhlin, delegate from the Pharmaceutical Society of Ireland.

PAYNE, J. C. C., Belfast, delegate from the Pharmaceutical Society of Ireland.

QUINLAN, F. J. B., delegate from the Faculty of Medicine of the Catholic University of Ireland.

SMITH, W. G., Dublin, delegate from the King's and Queen's College of Physicians, Ireland.

#### EXECUTIVE COMMITTEE.

#### THOMAS GREENISH (Chairman).

Thos. Barelay Alex. Bottle Henry B. Brady E. Northway Butt Michael Carteighe Charles Ekin T. Hyde Hils

B. H. Paul T. Redwood Riebard Reynolds John Robbins G. Webb Sandford Geo. F. Schacht Peter W. Squire

#### ELECTION OF OFFICERS.

#### President.

After a short retirement, the Committee of Nomination returned, and Dr. Brunnengräber (Rostoek) reported that the Committee had agreed to recommend that

#### DR. THEOPHILUS REDWOOD, of London,

Should be elected as President of the Congress.

This recommendation was received with acclamation by the meeting, and Professor Redwood accordingly took the chair.

The PRESIDENT said: -Gentlemen, I am indebted to your far too favourable opinion for the position of honour in which you have placed me. I must rely upon the favourable consideration which you will extend to me, which I trust will enable me to perform the duties of this chair.

Dr. BRUNNENGRÄBER then read the following list of

Presidents and Secretaries, which was then put to the Congress by the President, and accepted unanimously:

#### Vice-Presidents.

Chr. Brunnengräber, Rostock J. Dittrieh, Prague N. Gille, Brussels G. Lotze, Odense H. P. Madsen, Copenhagen T. Hansen, Christiania I. Martensou, St. Petersburg A. Petit, Paris

A. Poelil, St. Petersburg W. Schardt, Stockholm N. Sinnimberghi, Rome J. Török, Budapesth A. von Waldbeim, Vienna T. Greenish, London R. Reynolds, Leeds Peter Squire, London

#### Secretaries.

F. Hoffmann, New York M. Carteighe, London R. Godeffroy, Vienna C. C. Payne, Belfast Carl Schacht, Berlin

#### CONSTITUTION OF THE CONGRESS.

Mr. CARTEIGHE said that the representatives of the various foreign societies who met at St. Petersburg formed really the connecting-link between that Congress and the present. So far as the English members of the Congress were concerned, it was necessary to constitute themselves formally, by adopting as a Congress the report of the Executive Committee, which had already been read. He therefore proposed the three following resolutions:-

1. That the report of the Executive Committee now read be approved and adopted.

2. That the members of that Committee he and they are hereby appointed the Executive Committee of this Congress, and Mr. R. Bremridge the General Secretary to the Congress.

3. That the constitution and the regulations for conducting the husiness of the Congress, recommended in the report of the Committee, be adopted.

Mr. CARTEIGHE added that amongst the regulations referred to in the third resolution were two of some importance, viz., that all papers should be read in English by the authors, if present; if not, by the Secretary, and that in discussion no speech should exceed five minutes in length.

These motions were put by the PRESIDENT, and unanimously agreed to.

The reading of papers was then commenced, and two subjects closely allied to each other were taken together; the first was the question of an International Pharmacopæia; and the second, the Equalisation of Strength of Official Pharmaeeutical Preparations containing potent drugs.

I. JOSEF DITTRICH, of Prague.—The idea of a Universal or International Pharmacopæia had often been suggested. During 15 years, however, little had been done, but the unification of the Pharmacopæia Germanica showed that it was possible. The l'rench scheme seemed not to have made progress. Political affairs might have hindered, but they should not have destroyed, the good work expected from the Commission in St. Petersburg. It would be well to emulate the way in which the Pharmacopæia Germanica was carried out, and he submitted four distinct proposals having that end in view. A commission should be appointed, and the materials gathered at St. Petersburg handed over to its

II. I. MARTENSON, of St. Petersburg.—State assistance was necessary to realise the idea of an International Pharmacopæia. Individual efforts had not proved successful. He suggested-

1. To lay before the Governments of the several States concerned the necessity for an International Pharmacopæia.

2. To submit to them a request to send at least one representative to a Commission at their expense.

3. To appoint a "Commission for the drawing-up of an International Pharmacopoeia," consisting of representatives of pharmaceutical societies in the several countries. In that Commission the smaller States should be allowed to be represented by foreign commissioners. The conclusions of the Commission to be binding upon the several countries.

4. Members and Presidents of this Commission could suitably be selected at once by the Congress, as well as the place of meeting, which should be as central as possible.

5. The Commission to have power to obtain further assistance in the work.

6. A plan for the construction of the International Phardelegates who were recommended for election as Vice- macopocia must first be drawn up and communicated to the

pharmaceutical societies of the several countries for their approbation.

7. That after the final construction of the Pharmacopæia the Commission should cause the issue of a sufficient number of copies, possibly in the Latin language, to be sent to the several Governments, after which each country can have printed as many impressions as it may require.

Besides this special work, the several countries would preserve their own national Pharmacopæias with all their peculiarities.

III. Peter Squire.—It did everyone's heart good to see tbis veteran pharmacist reading his own paper in a clear and distinct voice, and, though 84 years old, taking his sbare in the advancement of pharmacy. No English pharmacist has more prepared the way for the introduction of a sensible international pharmacy. His elaborate paper went to show conclusively that formulæ containing potent drugs should and must be prepared of one definite strength throughout the world. That this scheme was not visionary he produced facts, tabulated forms, and practical suggestions in abundance. Why should not potent tinctures be everywhere assimilated? Why should not dangerous remedies be reduced to one uniform strength? Why should there be the slightest risk for a patient to bave such remedies dispensed in any quarter of the globe?

Other communications relative to the same subject were made by Edward Schaer, of Zurich; J. M. Maiseh, of Philadelphia; and Chr. Brunnengräber, of Rostock; besides suggestions from James T. Shinn (Philadelphia), L. Myers Connor (Dallus), and Emlen Painter (San Francisco).

After luncheon, a long and, at times, very exciting discussion arose upon the united subjects. Mr. MADSEN, of Copenbagen, in an extemporised written speech, remarked that the work already undertaken in the direction of an International Pharmaeopæia had come to nothing; the manuscript, written on loose sheets, was not forthcoming, and Mr. Jordan, to whom had been entrusted the enormous labour of compilation, had been taken seriously ill while yet engaged upon his task. Pharmacists must unite with the medical profession in this matter, or little would be aecomplished, and there was a danger in attempting too much at He proposed that the Congress should invite the Pharmacopæia authorities of all countries to send a delegate to a commission, meeting in a central European city, for the purpose of taking steps to equalise the strength of pharmaceutical preparations containing potent drugs, and, if possible, also of obtaining uniformity in other respects between tbe Pharmacopæias of various countries.

M. MARTENSON (St. Petersburg) said that a proof of the International Pharmacopæia, commenced at St. Petersburg, was finished up to the letter O, after which, unfortunately, it was lost. Mr. Méhu, of Paris, expressed his astonishment at what had been stated, and then, waving a big volume in his hand, said: There was the book; not burnt, and not lost. It had been corrected, enlarged, and thoroughly revised, and was ready for immediate printing and distribution. Probably, he continued, the story of the missing manuscript might have arisen from the fact that Mr. Jordan had undertaken a Latin translation, and that that document had perhaps met with an accident. In any ease, the Pharmacopæia itself was in perfect preservation, and was producible.

So ended an episode which threatened for a moment to

disturb the harmony of the proceedings.

M. Petit (Paris) thought the time come for a Universal Pharmacopæia, the consideration of which had been deferred to the meeting of the London Congress. M. GILLE (Brussels) recommended a letter to be written to the Congress of Medical Science now being held, offering their assistance to discuss the Pharmacopæia question, a proposition which was assented to by M. SINIMBERGHI, of Rome. He had been led to think that the two Congresses were one, and as he was a representative from the Minister of Public Instruction he desired bis name to be appended. Italy was late in the concert of civilised nations, but be hoped the present deliberations would aid the Italians in forming their own national Pharmacopæia. Mr. GREENISH said a final word of explanation about the burnt manuscript. At the Vienna Congress the Pharmaceutical Society of Paris was requested to give its ideas on the formation of an Inter-

national Pharmacopœia, and at St. Petersburg M. Méhu produced the volume just exhibited. The Congress returned its thanks, and appointed a committee to carry out the design. Sections of the work were sent to different pharmacists, and it was this new Pharmaeopæia, drawn up from the corrected proofs, which had unfortunately been burnt. M. BRUNNENGRÄBER (Rostock) thought they should begin in a small way, and draw up a list of medicines containing potent drugs. A committee should be appointed for that purpose, and the Pharmaceutical Society of Great Britain should be asked to carry out the necessary work.

Mr. Hampson (London) thought the preparation of an International Pharmacopæia was as difficult as the framing of a universal language. They must be content with small tbings at first, and confine their attention to potent drugs. The Pharmaceutical Society of Great Britain could not have eharge of the work: as yet it had no voice in the framing of a Pharmacopœia. Able English pharmacists had been asked to assist, but only in their individual capacity. Some better understanding must exist between the pbarmacist and the physician before the former could hope to have a share in such a compilation. M. GILLE said it was proposed that one part of the Pharmacopæia should contain the results already arrived at by various pbar macists, and another—the second part—should be deferred until more definite conclusions had been arrived at respecting the points under discussion.

M. MÉHU observed that the projected Pharmacopæia consisted of one portion only. No fear need be entertained that it would prove too French in character. Already they had altered the Dover's powder mentioned by Mr. Squire, and inserted the old original formula. All party spirit had been excluded from its pages, and it was ready for final revision and subsequent distribution.

Mr. MARTINDALE (London) would leave the work to private enterprise, as M. Jourdan had done already. The first thing to aim at was equalisation of potent remedies and erude substances. Acids, solvents, and spirit should have one uniform strength. When these points were settled we might proceed with an international empilation.

Mr. Carteighe (London) said the question lay between a comprehensive Pharmacopæia for all Europe, and a bandy volume containing the strengths of all important and potent medicines in such a shape as everyone could understand. He could not accept the large views of our Paris friends; neither did he tbink tbat, if adopted, the English physician would be likely to give them countenance.

M. Petit said there was no intention of abolishing national Pharmacopæias. Their own, however, had been followed by the Argentine Republic. But yet there were some fifty Pharmacopæias in existence, and as Germany, the United States, and the British Empire had but one, it was rather behind the spirit of the age not to move in the direction of a Universal Pharmacopæia. There was a universal tendency exhibited towards the simplication of formulæ.

Mr. SYMES (Liverpool) hoped that after this Congress pharmacists would obtain the co-operation of the medical profession. It remained for decision whether the work should be begun de novo, or whether properly appointed committees should deliberate upon and carry out what bad been already settled. In the latter case much work might be effected before another meeting of Congress.

M. Godeffroy (Vienna), seeing the difficulties attending a Universal Pharmacopæia, was disposed to aecept the smaller work which had been suggested. Attention should be given also to nomenclature, weights, and temperature used in different countries.

Mr. BALKWILL (Plymouth) approved of the idea of having a table of exchange of convertible strengths of the different preparations. That was within their reach, and might be at onee undertaken.

M. Madsen, who had introduced the subject, briefly replied. They must be content with small things at present. He did not think it dignified to send a letter to the Medical Congress unless pharmacists had been invited to share in the discussion.

The hour bad now arrived for adjournment, and the putting any formal resolutions was postponed. morning of the second day the matter had again to be deferred, and it was not until the third afternoon that the draft of the resolutions was ready. They stood as follows:— 1. The fifth International Pharmaceutical Congress, held in London, confirms the resolution passed at the previous Congresses, as to the utility of a Universal Pharmacopeia, but is of opinion that it is necessary at once to appoint a Commission, consisting of two delegates from each of the countries represented at this Congress, which should prepare within the shortest possible time a compilation in which the strength of all potent drugs and their preparations is equalised.

2. The Executive Committee of this Congress is requested to take the necessary steps that the resolution he speedily carried out.

 The work, when ready, should be handed over by the delegates to their respective Governments or their pharmaceutical committees.

4. It is desirable that the Committee suggest a uniform systematic Latin nomenclature for the Pharmacopæias of all countries.

5. It is desirable that the Committee take measures that an official Latin translation be made of the Pharmacopoeias of different countries which are not now published in that language.

6. It is desirable that the Committee be put in possession of all the manascripts, including the documents relating to the Universal Pharmacopeia, compiled by the labours of the Society of Pharmacists of Paris, presented at the fourth meeting of the International Congress at St. Petersburgh by the Society of Pharmacists of Paris.

7. That the pharmaceutical societies of the respective countries be requested to nominate those members of the Commission not appointed by this Congress, and to fill up any vacancies which may arise from time to time.

He said the last resolution would be better understood when the names were read; but some countries were not represented here at all, and others only partially, and they had not the means, therefore, of forming a judgment as to who would be the best persons to appoint, without running the risk of lurting the susceptibilities of distinguished local men. Therefore, they thought it well to hesitate wherever they did not know where they were going, and to leave to the Pharmaceutical Society of each country not represented to appoint its own representative. Again, in the event of a vacancy occurring, either through death or refusal to act, it was desirable that each country should fill the vacancy from its own body.

The resolutions, having been read in French and German, were then put by the President and carried unanimously.

Mr. CARTEIGHE then read the following list of delegates:—

Austria: Messrs. Dittrich and Waldheim. Belgium: Messrs. Gille and Cornélis. Denmark: Messrs. Lotze and Madsen. France: Messrs. Méhu and Petit.

Germany: Messrs. Brunneugräber and Carl Schacht. Great Britain: Messrs. Redwood and Peter Squire.

Hungary: Mr. Jarmay, and another to be elected by the local Society.

Ireland: Two to be chosen by the Pharmaceutical Society.

Italy: Mr. Sinimberghi and another to be chosen. Sweden and Norway: Messrs. Sebardt and Hansen. Bussia: Messrs. Martenson and Poehl.

Russia: Messrs. Martenson and Poehl.

were not officially represented.

Switzerland: Mr. Schaer and another to be chosen. The United States; Mr. Maisch and another to be chosen.

Dr. DE VRIJ said Holland was a small country, but he noped delegates would be appointed.

hoped delegates would be appointed.

Dr. V. WALDHEIM stated that Holland had been invited to send delegates the same as all other countries which

And now, with one consent, the Congress betook itself to the river Thames, where, at the Temple Pier, a steamboat was in readiness to convey the guests towards Gravesend. The weather was not propitious, and the ominous clouds, which threatened rain, soon began to fulfil their promisc. It was pleasant notwithstanding, and really no one seemed hurt. A good dinner on board was provided, and many of the guests had kindly brought their wives with them, still further to promote the entente cordiale. Before the evening closed the murky atmosphere eleared up, and unbounded

closed the murky atmosphere eleared up, and unbounded was the delight expressed when the boat, on her return, passed the Houses of Parliament, the fine hospital of St. Thomas, and the large premises of Messrs. Doulton. And so, amidst mutual congratulations, the guests separated for the night.

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The best attended meeting of the Congress was on Tuesday, the second day of its proceedings, when two subjects, both of great importance, occupied the attention of

the members. The first was the Revision of the Pharmacopæia, and the second Pharmaceutical Education.

The opening paper was by Mr. M. Carteighe, of London. Pharmacopœia revision was of special interest to the pharmaeists of Great Britain and Ireland, and that pharmacists should be associated with the medical profession in the work was a truth self-evident. He referred to the admirable arrangements of the United States. The presence of the pharmacist on the Committee of Revision, and the representation of the leading colleges of pharmacy conjointly with those of medicine on the National Convention which appoints this Committee, had stimulated the progress of pharmacy in the United States to a marvellous extent. In Great Britain much had been done during the past forty years to rear a class of men who might compare favourably with their Continental brethren. Mr. Peter Squire was conspicuous for his exertions in fusing the three Pharmacopæias of London, Edinburgh, and Dublin into one. He then sketched the history of the British Pharmacopæia, and suggested a decennial issue.

Dr. CHR. BRUNNENGRÄBER, who represented the German Pharmaceutical Association, had a small note upon the subject, which subsequently made the text of the resolution submitted to the meeting.

Mr. J. M. MAISCH (Philadelphia), also, in a brief note, felt certain that it would be demanded as a right that pharmacists should share in the revision of a Pharmacopœia. He approved of a decennial issue, though Dr. Squibb had advocated a new revision every five years. Addenda were always acceptable.

Speakers in rapid succession engaged in the discussion, and much light was thrown on the methods adopted on the Continent for the framing a Pharmaeopæia.

M. CARL SCHACHT (Berlin) approved of the establish-

ment of a permanent committee of revision.

Mr. HAMPSON believed that such a standing committee was the key to the whole subject, and that it might undertake at the same time the question of an international work. He was by no means satisfied with the position of affairs in England, and considered that an organic change was required to place English pharmacists on an equality with those of all civilised countries.

Mr. WILLIAMS was not so despondent. The British Pharmacopœia might not be prepared under the most desirable circumstances, but the result was satisfactory.

M. PETIT (Paris) said the French committee was formed officially of the professors of the School of Medicine and the School of Pharmacy, and last time there were added the members of the Society of Pharmacy; in fact, the chief work fell upon the French pharmacists.

Mr. OLDBERG (New York) thanked the Congress for their kind expressions as to the United States. America had done much towards international pharmacy. They had abolished fluid measures, and practically adopted the metric system. They were about to introduce the Centigrade thermometer, and in future all formulae would be expressed in parts by weight. They had a standing committee of revision elected every ten years, and they issued supplements. Pharmacists were in the majority on the Commission.

M. GILLE (Brussels) stated that the Commission in Belgium was formed of three pharmacists and two medical men. He strongly urged a permanent Commission, with a view of obtaining an International Pharmacopæia, and that a formal resolution should be made to that effect.

Mr. PAYNE (Belfast) shared the general opinion that pharmacists should be engaged upon the task of revision; the Irish pharmacists had as yet no official recognition.

M. POEHL (St. Petersburg) said that in Russia there was a Council, composed of 16 medical men and two pharmacists, and that to the latter the whole practical work was entrusted.

Dr. F. J. B. QUINLAN, as an Irish physician, considered it unreasonable that pharmacists should be excluded from the compilation of a Pharmacopeia. The three for the United Kingdom had been swept away, but for a long time the College of Physicians had the sole authoritative voice. He advocated a standing Committee, composed, in equal numbers, of medical men who were themselves experts in pharmacy, and also delegates from the English and Irish Pharmaceutical Societies. Medical men might as well try to make their own surgical instruments as to make their

own preparations. Manufacturing chemists were in the habit of making large chemicals, such as Epsom salts, according to their own process, and in the cheapest and best

M. SINIMBERGHI (Rome) stated that no sooner was there a united Italy than they desired a national Pharmacopæia. At first medical doctors were alone placed upon the Commission, but since they had secured the practical aid of men

engaged in pharmacy.

Mr. G. F. SCHACHT (Clifton) was rejoiced to hear medical testimony expressed in favour of the pharmacist, and to learn that in Russia there was a legal recognition of his services; in which Mr. Symes (Liverpool) concurred, and hoped that some definite action would be taken by the Congress.

Mr. ATKINS (Salishury) would not press for the actual number of pharmacists to be placed on a Commission. He gathered that the condition of pharmacy was higher on the Continent that in England, and most probably there was a strong limitation of the respective duties of the physician and the pharmacist. Should they succeed in England in effecting the entire separation between medicine and pharmacy, the pharmacist would then have a better claim to have a distinct position in framing a Pharmacopæia.

Dr. DE VRIJ (The Hague) observed that in Holland (1864) the King had appointed a Commission, consisting of three professors, two of botany and pharmacology, and one of chemistry, and four pharmacists; but the pharmacists thought it was necessary to have at least one medical man,

who consequently was elected.

Dr. von Waldheim said they had no permanent Commission in Vienna; they went to the Minister of State when an addition to the Pharmacopæia was required. The Commission consisted of six chemists and various professors, and they all worked harmoniously together.

Mr. Oldberg added to his former speech that when Dr. Squibb proposed to the American Medical Association to take

charge of the Pharmacopæia the offer was declined.

Mr. Peter Squire (London) said that the Pharmacopæias of Great Britain were issued under the authority of the College of Physicians. Sir James Clark had suggested that a delegate from the Pharmaceutical Society should be appointed on the Pharmacopæia Committee, and he himself had heen selected. In the second committee Professor Redwood and Mr. Warington represented pharmacy.

M. LOTZE (Odense) said that the Pharmacopæia in Denmark, now 13 years old, must speedily be replaced. There were eight physicians and two pharmacists on the

Commission.

The PRESIDENT (Professor Redwood) wished to guard against any erroneous impression being formed by their Continental friends respecting the course that had been adopted by the English medical profession. It was not till recently that pharmacists as a body could be called upon to take a prominent share in the revision of the Pharmacopæia. Forty years ago there was no recognised pharmaceutical body — no pharmaceutical education or examinations. Gradually English pharmacists had become a scientifically educated body, and they must be satisfied with a gradual recognition. Medical men were desirous of obtaining pharmaceutical aid. First they availed themselves of the services of Mr. Richard Phillips, a pattern pharmacist, who was engaged for several years in the revision of the Pharmacopeia. Next they applied to Mr. Peter Squire, and subsequently to himself. They were engaged for seven or eight years, until the duties of the College of Physicians were transferred to the Medical Council. Yet they, with one or two pharmacists in North Britain, were retained in the revision of the first British Pharmacopæia. Medical men had shown no disposition to ignore the services of a qualified pharmaceutical body. He thought that their hest hope was in the exercise of a wise diplomacy, and not in any claim of an assumed right. Let them raise their scientific studies and thus improve their influence amongst educated men, who would be disposed to advocate, in a disinterested manner, their title to recognition.

This ended the discussion, and Congress adjourned for lunch, not hefore it was stated that the officials had been invited to attend Section 15 of the International Medical Congress, which would meet on Wednesday, and deal with materia medica and pharmacology. A request had likewise been made to the section that the subject of an International Pharmacopæia might be taken on Friday, when the members of the Pharmaceutical Congress would be able to attend.

In the afternoon the following resolution, which was in reality the substance of Dr. Brunnengrüber's communication, was submitted :-

That in the opinion of the fifth International Congress, meeting in London, it is the duty of all pharmaeists to urge that in the future revision of the national Pharmacopæia it is necessary that there should be a permanent Committee or Commission, comprising among its members the largest possible number of pharmaeists. It should be the duty of this Commission, during the periods between the publication of the successive editions, to investigate sneh new drugs as make their appearance in the drug market, in order to determine the characteristics of their genuineness, and at the same time to submit the formulæ given in the Pharmacopæia to a continuous examination. The results of this work should be brought to the knowledge of those interested, in an appropriate manner, by publication before the final promulgation of that work.

The intention was that in each country there should be an official standing Committee or Commission, containing a certain number of pharmacists. The motion, after some explana-

tions, was then put and carried unanimously.

The business of the Congress was for a while suspended by the ceremony of the presentation of the Hanbury Gold Medal to Professor Flückiger. It was a touching sight to witness the circle of old friends gathered round Mr. Daniel Bell Hanbury, who had come to assist at the first award of this distinction which was created in memory of his son. Close by stood Mr. Peter Squire, Mr. Thomas Hyde Hills, and Mr. Bird, together with several others who, for many

years, had been inseparable companions.

The original idea was due to Mr. Thomas Greenish, to whom the chair was temporarily ceded that he might have the honour of bestowing the first medal. That gentleman proposed in Council (December 1, 1875) "that a Hanbury Gold Medal should be founded, to be awarded, not for success in passing an examination, which was in any case a very insufficient test of ability, but for some original research in connection with materia medica and pharmacy." wards Professor Dragendorff, of the University of Dorpat, commented upon the matter, and suggested that the medal should be given for original research in the domain of pharmaceutical science, or, better still, the natural sciences that have a bearing on pharmacy. That there should be no competition, and that in the selection preference should be given to the one who had carried out the most important original investigations within five years. By a later resolution of Council it was determined, in anticipation of the International Congress, to award the first medal in 1881.

No one will dispute that Mr. Greenish occupied his right place upon the occasion, or that Professor Flückiger, whose labours have been incessant, was a most worthy recipient.

Mr. Greenish said that the medal was strictly international, and was awarded by the respective presidents for tbe time heing of the Linnean, Chemical, and Pharmaceutical Societies, and of the British Pharmaceutical Conference, together with one pharmaceutical chemist, who should, prior to each award, be nominated by the last-named two presidents. He regretted that Professor Flückiger was not present, owing to his state of health, and he requested Dr. Brunnengräber to receive it on his behalf.

The Doctor, who joins the clearest utterance to a natural gift of eloquence, received the medal, and offered to convey to his friend the cordial good wishes of the Congress. Never had he so much regretted the want of a universal language in which to express his thoughts. He considered this presentation of great importance to the future of pharmacy. They were all aiming at uniformity, by all nations acting on the principle of the motto, "Doctrina multiplex veritas

Mr. DANIEL BELL HANBURY was visibly affected, and expressed his heartfelt satisfaction on his being there.

When he left the room the whole Congress rose in token

Professor Redwood having resumed the presidential chair, the question of Pharmacopæial nomenclature next engaged attention. There were two communications from Mr. Oscar Oldberg, of New York. In the first he reduced his observations to the following six propositions:-

That it is desirable, in order to bring about uniformity in Pharmacopecial nomenclature—

- (1.) That the Berzelian system of chemical nomenclature, as illustrated in a general way by the Pharmacopoxias of the Scandinavian countries, France and Spain, &c., be adopted.
- (2.) That, in naming each chemical respectively, that part of the name which refers to the base shall be in the adjective form and placed before the other, so as to combine alphabetical order with systematic classification.
- (3.) That the Latin names of alkaloids shall have the termination " -ina."
- (4.) That the Latin names of glucosides and other neutral principles shall have the termination "·inum."
- (5.) That the term . . . . be adopted to designate volatile oil.
- (6.) That in naming solutions, tinctures, extracts, and other pharmaceutical preparations, the most important constituent be named in each case respectively, as far as practicable, and that that part of the name of each preparation shall be placed first which refers to such constituent.

It was suggested that the points involved should be referred to the Commission proposed to be appointed.

The second paper was on "The Disadvantages of Therapeutical Conservatism, in reference to the Pharmacopecial Materia Medica."

The voluminous character of an International Pharmacopoeia was the necessary result of completeness. Certain drugs or chemicals should not be sanctioued by admission, while others were condemned by being ignored. Were an infallible judgment on therapeutics possible, then a Pharmacopoeia would become a weighty authority, but seeing the divergence of opinion, we must arrive at the conclusion that a Pharmacopoeia should have no weight as a purely therapeutic guide.

True, the Pharmaeppeia does not teach therapeutics, yet certain remedies are excluded, because their medical value is not clearly known. It was too conservative; the mere fact of insertion should not be evidence of positive value. All new and probably useful remedies should be included, and a description of such should be contained in an authoritative supplement.

This paper was also referred to the Committee of Revision. The following two papers were then read, discussion being postponed to the concluding meeting. Both treated of Pharmaceutical Education, and, being drawn up in the form of statements or suggestions, are not capable of abstraction.

#### PHARMACEUTICAL EDUCATION.

By Christopher Brunnengräber, Rostock.

(As representing the German Pharmaceutical Association.)

Pharmaceutical instruction in the German Empire is regulated by two edicts of the Imperial Chancelor, Prince Bismarck: of March 5, 1875, "Concerning the Examination of Pharmacists" (see enclosure, No. 1) and of November 13, 1875, "Concerning the Examination of Pharmacists' Assistants."

The course of instruction comprises :--

1. The School Training.—There is required either—(a), The qualification certificate, requisite for the one year's voluntary army service, from a recognised school in which Latin is a compulsory subject; or (b), The certificate of fitness for entry at a university.

2. The Apprentiveship.—This, in the case of pupils falling under (a) lasts for three years, and of those under (b) two

years.

3. The Assistant's Examination takes place, upon the request of the master of the apprentice, before a Government board of examiners, consisting of one of the higher medical officials and two pharmacists.

4. The Period of Service as an Assistant lasts three years, and at least one-half of that period must be spent in a

German pharmacy.

- 5. The Study at a University should extend over at least three sessions (one year and a half), and should comprise general and pharmaceutical chemistry, general and pharmaceutical botany, pharmacognosy, qualitative and quantitative chemical analysis (including poison and food analysis), and physics.
- 6. The State Examination is undergone before one of the 23 examination commissions, each consisting of a professor of chemistry, of physics, and of botany, and two pharmacists.

As in the course of time it had become manifest from the practical working of these examination regulations that many points in them required further reform, the German Pharmaceutical Association in 1878 appointed a committee to confer upon the reform of pharmaceutical education. After this committee had continued its labours two years, as described in two reports, it last year submitted to the general meeting in Breslau propositions for reform, and it was resolved at that meeting that these should be laid before the Imperial Chancellor and recommended to his consideration.

These snggestions are in reference to —

1. The School Training.—That the standard should be raised to the level of producing a certificate of fitness to attend a university by all intending to devote themselves to a pharmaceutical career; or, with that, if possible, the official declaration of the equal value of the certificate relating to the assistant's examination.

2. The Apprenticeship would then last only two years.

3. The Study at the University.—That it should be prolonged over at least four sessions (two years) and extended to microscopy, mineralogy, toxicology, and zoology, and that those pharmaeists who wish to obtain the qualification to act as medical and sanitary officials, visitors of pharmacies, examiners and professors of pharmaey should, after a further stay of at least two sessions, have to undergo a second corresponding examination.

#### By Edward Schaer, Zürich.

It is thought necessary, or at least highly convenient (inasmuch as a certain degree of uniformity of pharmaceutical training in different countries may seem desirable and obtainable), that—

1. Owing to the great enlargement of medical and pharmaceutical education in the last 20 years, the period of the academical studies of the pharmacist be not shorter than two years (or four Semestres), and further, that education essentially pharmaceutical be in the hands of teachers

belonging to the pharmaceutical profession.

2. That besides the general knowledge of the use of the microscope and microscopical work in general botany, there be also special microscopical study in respect to pharmacology, hygiene, and toxicology, and that pharmaceutical examinations be made to include this kind of knowledge, as is already the case in several states.

3. That the "history of pharmacy and of drugs" be introduced in a mere or less official way into the studies of the phar macist, either in form of lectures on the subject, or, as regards the history of drugs in connection with pharmacology,

in the way followed in Pharmacographia.

4. That in order to facilitate contact between the medical and pharmaceutical professions, pharmaceutical studies may be supplemented by "medical torcology" and "physiological chemistry" (including practical laboratory work), inasmuch as these two branches are deemed suitable to the pharmaceutical chemist, and also as they can be treated and taken up without previous exact anatomical and physiological training.

In case of introducting these subjects into the studies of the pharmacists, it would be desirable to give them a place in the examinations in connection with other allied sciences.

Short communications were also sent in from J. M. Maisch (Philadelphia), J. Dittrieh (Prague), Emlen Painter (San Flancisco), and from C. R. Blackett (Melbourne).

Whatever differences of opinion might have been entertained respecting education, all were unanimous that the next best thing to do was to hasten to the complimentary banquet at Willis' Rooms. It was a curious spectacle, both during the reception and at the dinner. The imperturbable gravity with which foreign names were announced so as not to be recognised by their owners afforded much amusement, though it must be conecded that names with which we are happily familiar were subjected to the same treatment by our distinguished guests. Once seated at the table, one could hardly fail to acknowledge the extreme convenience of the place for any festive entertainment. There was ample space, and the whole wore a very gay appearance. Besides the delegates and members, there

were present Professor Abel, who hospitably invited the visitors from abroad to Woolwich Arsenal; the President of the Institute of Caemistry; the Master of the Haberd shers' Company, himself an old pharmacist, and an assistant prior to the Aet of Pharmacy; the Rev. G. W. Weldon, who takes personal interest in the affairs of pharmacy; Dr. Ramsay; Mr. H. J. Chaney; Mr. F. C. Danvers, of Indian reputation; Mr. Isbister, Dean of the College of Precaptors; Alderman Sir Charles Whetham, Alderman Ellis, and Professor Reputation

At the upper end of the room was stationed the Hungarian band, whose playing was infinitely too loud. Mr. Hampson and Mr. Williams, who were contiguous to the harmony, behaved like men who were determined to come out strong under trying circumstances. When the Royal toasts had been duly honoured, the Chairman (Mr. Thomas Greenish) proposed "The International Pharmaceutical Congress," to which Professor Redwood replied in appropriate terms. Then came a civic speech, in which the metropolitan improvements, including the electric light, were traced to the Lord Mayor. The badge of honour which the speaker wore caused him to be freely mistaken for that august functionary. To him followed Mr. H. B. Brady, who was entirely successful in giving "The Health of Our Visitors from Abroad." They, in turn, were not behind in the expression of their thanks. Dr. Brunnengräber led the way, and his voice rang through the room like a clarion: his sentences seem to culminate in effect, and his manner is inspiriting. "London for Ever" was his concluding motto, and he sat down amidst great

applause.

M. DITTRICH gave "The perfect unanimity, endurance, and patience of the pharmacists of the whole world." Gille, of Brussels, pronounced a few graceful words; and M. Lotze, of Odense, with his friend M. Madsen, spoke for Copenhagen; while both M. Martensou and M. Poehl very properly addressed the assembly in their native language, Russian. M. Hansen, of Christiania, had not calculated on the size of the banquet-room, and he was not distinctly heard. He was succeeded by M. Petit, of Paris, who said that he had been bred as an English pharmacist. M. Sinimberghi, of Rome, and M. Sebardt, of Stockholm, returned thanks; and M. Török (Budapesth) proposed, in Hungarian, "The Wives of the English Members of the Congress." Subsequent speakers were M. von Waldheim (Vienna); M. Godeffroy (Vienna); Dr. Hoffmann (New York); Mr. Payne (Belfast); Dr. de Vrij and Mr. G. Baker (Rome). Perhaps nothing was more graceful than the little speech of M. Carl Schacht, of Berlin, who proposed the health of his namesake "The Vice-President of the Pharmaeeutical Society." Mr. G. F. Schacht (Clifton), in proposing the health of "The English Visitors," coupled the toast with the name of Professor Abel, who responded. The hour of separation was approaching when M. Madsen, of Copenhagen, gave the health of "The Executive Committee," coupled with the names of Mr. Carteighe, Mr. Butt, Dr. Paul, and Mr. Robbins. Never was a recognition of services more deserved: each in turn replied, and Mr. Greenish had to make a final oration in acknowledgement of a toast proposed by M. Godeffroy. Lastly, Dr. Brunnengräber gave a toast which it would have been an injustice to have omitted; it was in honour of "The General Secretary," Mr. Richard Bremridge. How our visitors clinked their glasses; how the Germans said, Hoch: and how the English cheered must now be numbered among the pleasant memories of the Complimentary Banquet of the Fifth International Congress.

On Wednesday morning the Congress entered at once apon the discussion of pharmaceutical education. It was a manifest advantage to English pharmacists to be put in possession of facts relating to the various systems pursued abroad. M. Petit, as President of the Société de Pharmacie de Paris, and a delegate from that society, had a peculiar right to speak. He remarked that there were now two classes of pharmaciens, formerly quite distinct, but within a year the second were obliged to go through the same curriculum as the first. They had asked that there should be but one class. The candidate must first obtain the degree of Bachelor of Science; then spend three years in a phar-

macy, and next three years in a school. The second class was intended to practise in small towns and villages, but there was a danger lest the whole business might fall into their hands. There was a three years' apprenticeship, after which the pupil had to pass au examination before a board consisting of a professor in the School of Pharmacy, assisted by two pharmaceutical chemists engaged in business.

In answer to Mr. G. F. Schacht, as to what privileges the pharmacist received from the State, M. Perit replied that the first class had the right to establish himself anywhere in France, the second only in the department where he was admitted. If he wanted to go into another department he must pass a fresh examination. Many of the second class passed in the departments of the Rhone and Seine, and remained in Lyons and Paris. Formerly all the chemists in Paris belonged to the first class. Pharmacists could sell medicamen's, but no compound without medical sanc'ion. It was asked now that all prescriptions and medicaments might be sold on demand. Poisous could not be sold, and there should be a law, not restricted to chemists, to that effect. The number of pharmaciens was not limited.

M. SINIMBERGHI, of Rome, said that since the establishment of the National Government candidates had to study mineralogy, toxicology, and zoology, in addition to their previous course. Three years were required, and afterwards a four years' practice in pharmacy of the first class. The second class diploma was abolished, and a Major examination must be passed. An assistant must pass the examination before the committee appointed by the Government before he could dispense. Little country places were, therefore, neglected, and it was in contemplation to restore the

two diplomas in order to meet the difficulty.

M. Sebardt, of Stockholm, said that the Swedish resembled the German system, but that two years instead of three were required of the first class pharmacist. Pharmaceutical education was under the control of the Department of Public Health, and examinations were conducted by the only existing school of pharmacy—that at Stockholm. This was originated by the Apothecaries' Society, who largely maintained it. Government had this year assumed entire charge of the Institute. The school was under the direction of a board of six members, four of whom were professors,

and two practical pharmacists.

Dr. DE VRIJ, of The Hague, said that since 1864 candidates before entering pharmacy must pass a literary examination, including Dutch, French, German, and Latiu. They then went to one of the universities-Leyden, Grouingberg, Utrecht, or Amsterdam-where they passed a scientific examination. Having done that they became "candidates of pharmacy," and had to appear before a board annually appointed by the King. The majority of the board were pharmacists. They were examined in botany and microscopy as applied to drugs. If successful they had to pass the practical examination, which lasted a week. There could be uo cramming, as they had to make toxicological analyses, to detect adulteration, to prepare at least two galenical preparations, and to make some chemical preparations. This might be done in one year, but that was scarcely possible. A certificate of at least two years' practice of pharmacy was required before the last examination. Pharmacists might sell medicines, but not prescribe nor give advice. Where no pharmacist lived the physician might vend remedies. Every university had a professor of pharmacy, and the pharmacist might gain the title of Doctor of Pharmacy.

M. GILLE, of Brussels, said that in Belgium pharmaceutical education was quite free. It was organised at four universities, two belonging to the State. Diplomas were granted by these, and by a Governmental central board. A preliminary education was required, and the regulations were under revision. At present physics, botany, mineralogy, and zoology, together with practical chemistry, were required. If successful, the candidate was examined in the natural history of drugs and medicaments, theoretical and practical pharmacy, and the elements of toxicology. The third, final examination was entirely practical. Pharmacists were not limited in number. They might sell anything without a prescription, even poisons under due precaution. They had the exclusive sale of medicines. In country places where there was up pharmacist the physician dispensed his own medicines.

M. Petit then proposed the following resolution:-

It is desirable that in all countries the literary studies required from the pharmaceutical chemist be the same as those required to obtain the diploma of a doctor of medicine.

Pharmaey and medicine were two branches of the same art, and it was a proposition which they were prepared to adopt in France.

Dr. V. Waldheim, of Vienna, thought the proposal useless.

M. Méhu, of Paris, supported the resolution, as in the French army the rank of a medical man and that of a pharmaceutical chemist were identical.

M. CARL SCHACHT, of Berlin, said the great majority in Germany and Austria were against this high standard of education, owing to the great difficulty in obtaining assistants. The regulations were very beautiful on paper, but they were not carried out.

M. Madsen, of Copenhagen, said that in Denmark pharmaey was very limited. There were about 120 pharmacists in the whole country, and Government appointed the locality. In the large towns there were too many; in the

smaller towns, none.

M. Török, of Buda-Pesth, said that in Hungary the number of pharmacists was limited, and the Government defined and defended their interests. There was also a tariff of medicaments. He thought imposing a higher education would only raise up difficulties and prevent the possibility of getting apprentices.

After lunch, a telegram arrived from Professor Flückiger—"Kindest regards; good success for the Congress."

Mr. Carteighe announced that the Committee recommended that the resolution of M. Petit on education should be placed on the minutes for discussion in future years. It was rather an advanced proposition, for which England at

least was hardly ripe.

Mr. G. F. SCHACHT, of Clifton, wished to add a few words as au English representative of pharmacy. The conditions under which they practised pharmacy were peculiar, particularly with regard to the mutual relations between pharmacy and the State. Abroad, the law not only prescribed a chrrieulum, but offered certain privileges which brought with them pecuniary recompense. In England these relations were non-existent. No law gave pharmaeists the right to deal in medicines generally, nor gave the quali-fied man the sole right to dispense. Outsiders were prevented only from dealing in a few articles named in a certain schedule. There was, however, one law in the Statute Boek, and that forbade the pharmacist to become public analyst. There was not sufficient inducement for higher culture, and they were compelled to limit their aspirations. Men with the education that would befit a doctor of medicine would leave pharmaey for a more remunerative occupation. institutions of a land were the reflex of the genius of the people, and they could not adopt those which had been the outgrowth of the genius of a foreign people. It was from public recognition of the importance of this question that they must hope for any improvement. Their foreign friends must give a generous approbation to their efforts, but he feared he must ask their sympathy more on the score of generosity than on absolute approval of all that was done in England.

Mr. PAYNE, of Belfast, offered a copy of the Irish Calendar to any who might make application, and said it contained full particulars of the regulations of the Irish Pharmaceutical

Society.

The following paper was then read by Mr. T. BARCLAY, of Birmingham, on "The Relations of Pharmacists to the Medical Profession and the Public."

#### [ABSTRACT.]

Pharmacy in the abstract is a branch of medicine, yet only in a primitive state of society is the art of compounding medicine associated with the treatment of disease. The more the functions of the physician and the pharmacist are kept separate the better it is both for them and for the public. In most Continental States the compounding and sale of drugs is restricted to the pharmacist, who is an educated man, and occupying the same social position as a member of the medical profession. In the above named

countries a systematic educational training is as requisite for pharmacy as for medicine, and consistently the standard of education is attempted to be raised for the pharmacist as a member of a profession. The number of pharmacists is limited, and State medical supervision ensures the proper conduct of his business. The subjection of pharmacists to medical control is a doubtful good and generally the result of usage.

In England there is no separation of the practice of pharmacy from that of medicine. Formerly it was restricted to the apothecaries, who were a chartered company with various privileges; the drug trade was in their hands, and the sole right of compounding medicines. They, however, usurped medical functions, and, competing with physicians, the latter sought another class of dispensers who were under no obligation to qualify themselves by study. Pharmacy was free for anyone to pursue, but the joint practice of pharmacy and medicine by the apothecaries led to the conditions which obtain in this country. Pure pharmacy became mixed with other incongruous trades, and the absence of any necessity for special training produced a mischievous effect.

A voluntary effort was made to regulate the practice of pharmaey and to provide for due qualification. Thus the Pharmaceutical Society arose; in time received a Royal charter, and secured certain powers by legislative enactment. Its powers are limited, the law requiring only a test examination, and precautions to be observed in the sale of poisons. These provisions are found to be insufficient either for the protection of pharmacists or the public. The personal responsibility of the pharmacist has even led to an invasion of the law, and it has been ruled that while an unqualified individual may not carry on business as a pharmacist, an association of seven or more unqualified persons may do so with impunity as a trading corporation. If it be essential to the pharmacist that he should be a highly cultured person, he may reasonably expect not to be placed in competition with men who have had no training to fit them for such a responsible position.

A mere examination test is not sufficient to endow the successful candidate with either social or technical qualification. For such purposes a curriculum such as that proposed by the German Pharmaceutical Association would be required. The too easy access of mere traders to legal qualification leads pharmacy to be depreciated. Dispensing regulations should be more stringent. To place pharmacy under medical control would probably be less efficacious than well-directed action on the principle of self-government. Where medical control was exercised public opinion was not in its favour. Independence should be maintained and licence eliminated, and general experience showed that nothing can be expected from legislation alone. Voluntary action must be our strongheld, and education is the ultimate point to which we are led to look for possible improvement.

Dr. CHR. BRUNNENGRÄBER advised the pharmacist to abstain from the recommendation of secret remedies, patent medicines, specialties, and from the practice of medicine.

Mr. HAMPSON alluded to the vexed question of counter practice.

With regard to the next meeting of the Congress, only one official invitation had been received, namely from Mr. Shinn, of Philadelphia, the President of the American Pharmaceutical Association, who gave a cordial invitation to hold the next meeting in the United States. The distance was too great and the locality rather inaccessible; it was proposed, therefore, that three years hence, namely, in 1884, they should meet in Brussels. This was unanimously agreed upon, and Professor Redwood then delivered the following

#### CONCLUDING ADDRESS.

The honour you have conferred upon me by placing me in this chair involves a duty on my part which I must now endeavour to perform. In the first place allow me to say that it has been a source of pride and gratification to me and those of my countrymen who have joined us here to have had an opportunity of conferring and advising with somany distinguished pharmaeists of other nationalities on matters relating to our common interests. The subjects which have occupied our attention are such as could not fail to interest us all, and the discussion of these subjects by men whose several experiences have differed, perhaps, as

widely as the climates and the customs of their respective countries, has afforded matter from which I believe all may derive benefit, and none more than the pharmacists of this country, for we are among the youngest members of the pharmaceutical family. Those who are now the legitimate representatives of British pharmacy cannot claim a long pedigree, nor trace their connection with the art and seience of pharmacy from a remote period. About 100 years ago we were simply dealers in drugs, without any pretensions to a knowledge of the mode of preparing or dispensing medicines; and although since that time we bave been called upon by the heads of the medical profession to undertake the responsible duties of pharmacy which our predecessors, the apothecaries, had ceased to fulfil in the manner required by physicians, and although within the last 40 years we have secured our position as pharmacists by legal enactments, and made considerable progress towards adapting our qualifications and habits to the requirements imposed upon us by the advanced state of medical knowledge, yet it must be admitted that much remains to be done in shaking off the too purely trade character, and assuming that of scientific experts. As an aid to the accomplishment of this object we are fortunate in being thus brought into contact with our brethren from countries where pharmacy has been practised for centuries as a distinct art, unconnected with the treatmeet of disease, and where under regulations imposed by law, aided by the influence of scientific associations, those engaged in the practice of pharmacy have acquired a position similar in some respects to that to which in this country we are seeking to attain.

We cannot hope, however—perhaps we may not even desire—in all respects to be placed in the secure and easy position occupied by some of our Continental friends, who are relieved from the fear of competition with co-operative stores, or unqualified dealers, or even qualified competitors. Such a happy state of existence might be a dream of Elysium which some of our perplexed British pharmacists may have indulged in but cannot hope to realise, and which possibly some of those who have realised it may be willing to relinquish. There is no such Elysium in free-trade England, but there may be some characteristic features in our commercial policy which may not be undeserving of study by those who live under more restrictive regulations.

The proceedings at this and previous meetings of the Congress serve to mark out distinctions between the position of pharmacists in this country and that of our Continental brethren. One of the questions discussed at St. Petersburg was that of "The Constitution of the Apothecaries' Committee of Revision," or, in other words, the question as to who should constitute the Committee for examining the drugs kept in pharmaceutical establishments. We have not had occasion to discuss that question at the present meeting, but in times past such committees, originally appointed by the College of Physicians, and afterwards by the Society of Apothecaries, existed in this country. If such a question came before us now, we should be disposed to put it somewhat into the form of a question that was discussed at the Vienna Congress, which was to this effect, "Is the medical supremacy in the regulation of affairs between the State and the pharmacists in consonance with the present scientific and social status of the apothecaries, and does it conduce to the advantage of the State, the community, or pharmacy?" There is no doubt that the scientific and social status of pharmacists in countries where drug revision is still tolerated are bigher than they are in this country, yet we should be very unwilling to have our drug stores overhauled by a Committee, however constituted, with power to condemn what the Committee may not approve of.

Ît is obvious from the way in which the Vienna question was framed, that, abroad as well as here, the privileges and influence which pharmacists may hope to acquire in their relations with the medical profession and the State will mainly depend upon the existing scientific and social status of the body throughout that State, wherever it may be. In England, where there was no recognised pharmaceutical body, no systematic pharmaceutical education, nor any examinations 40 years ago, it cannot be matter of surprise to find that the status and influence of the body, except for certain special purposes, are less than they are in some other countries where a pure pharmacy with a scientific basis,

giving it the character of a quasi-profession, has existed and been fostered by State patronage for eenturies. In France a School of Pharmacy has existed for more than 300 years.

Questions relating to pharmaeeutical education were discussed at the Vienna and St. Petersburg meetings, as they have been also at this meeting; but in this country our position and requirements are so different from what they are abroad that it is difficult to give the question, as affecting British pharmaey, a strictly international character. The subject itself, however, is of the greatest importance. Education, both scholastic or elementary, and scientific or technical, are essential elements of success in all attempts to raise the status and influence of a body of men such as pharmaeists in their relation to others such as the medical profession or tle State, and no great advance can be made towards professional elevation until the necessary educational requirements have been fulfilled.

Their imperfect fulfilment is no doubt a cause of weakness among British pharmacists, and looking at the high social and professional position of medical men in this country as compared with our position, it must be conceded that there is a gap which ought to be filled up or diminished as we look for a participation in the regulation of certain medical or medico-pharmaceutical affairs. We are certainly a little behind our Continental friends in this respect, but we are not disposed to lose any available and appropriate opportunity for improving our position, and making our knowledge, skill, and experience available for the public good.

It is, perhaps, not too much to say that the most important subject we have had to discuss here—one which lies strictly within our legitimate province—has been that of the equalisation of the strength and composition of potent medicines which are used under similar names in different countries, and are recognised in the Pharmacopæias of those countries. As far as relates to the preparation of such medicines, the production of an International Pharmacopæia seems to present no insuperable difficulty, while it would be attended with great and manifest advantage. It is an object that could hardly be accomplished in any other way than through an International Congress, and while it thus tends, if promoted by us, to justify the existence of this Congress, it will also serve indirectly to advance the position and influence of pharmaceutical associations, and especially, as I believe, those of the Pharmaceutical Societies of Great Britain and Ireland.

The construction of the work involves the application of both medical and pharmaceutical knowledge. The pharmacists of this country, co-operating with those of other nations where national Pharmacopeias are produced by the joint labours of medical men and pharmacists, would he brought into communication with those in authority both here and elsewhere, and the way would thus be prepared for our undertaking other responsible and official duties.

And now, in conclusion, allow me to express a hope that this Congress may not have proved unproductive of good, in bringing us together, face to face, from so many distant countries, and affording us an opportunity for free and friendly discussion, for the interchange of opinion and sentiment, and the cultivation of good fellowship, not only in the hall of science, but at the festive board, and in social intercourse. On a former occasion I had the pleasure of attending a similar meeting at Vienna, and if I could anticipate that our visitors would carry back to their homes as many pleasing recollections of their visit as I then brought away, and still retain, I should be satisfied in thinking that our endeavour to carry out the objects, and do honour to the foreign members of this International Congress, has not been in vain.

At the conclusion of the address Dr. V. WALDHEIM moved a vote of thanks to Professor Redwood for his conduct in the chair. He had himself been president of the last Congress, and he knew how difficult was the position. He hoped the Congress would prove a material benefit to English pharmacy, and the foreign members would never forget the reception which had been accorded to them.

M. Petit wished in the name of the Congress to thank the Pharmaceutical Society of Great Britain for having placed their house at the disposal of the members.

M. MADSEN, in the name of all the foreign guests, ten-

dered their thanks to the Executive Committee, and to the general secretary, Mr. Riehard Bremridge.

M. SINIMBERGHI, on behalf of Italy, added his acknow-

ledgements of the kindness they had received.

M. DITTRICH said he might call himself the father of the Congress, as he had attended them all. It was a great pleasure to him once more to have met Mr. Greenish.

The President then returned his thanks: he had been favoured by the assistance of a very active and accomplished secretary in Mr. Carteighc. He must say that the great success of the Congress had mainly resulted from the activity and extraordinary executive power possessed by that gentleman. The President then declared the Congress closed

until it met again in Brussels.

The social enjoyments of our visitors were admirably provided for hy the Executive Committee. They visited Kew Gardens, Hampton Court Palace, Bushy Park, and Richmond Hill, in spite of the untoward aspect of the weather. On Wednesday afternoon they repaired to the gardens of the Royal Botanical Society and of the Zoological Society. On Thursday, when they were free from meetings and discussions, they were conveyed by train to Henley-on-Thames, thence by water to Maidenhead Bridge, where about 150, including many ladies, dined at Skindle's Hotel. The day was splendid—a perfect summer's day—and the guests as well as their entertainers saw the sylvan banks of the Thames to the greatest possible advantage. May we hopewe think we may-that many pleasant recollections will survive the Congress, and that by its means the interests of pure pharmacy have been advanced!

Messieurs, Meine Herren, Gentlemen,—excuse a French

expression—Au revoir, and not adieu.

### The International Medical Congress.

THERE can be no doubt in future of the truly metropolitan character of the British capital in relation to either pharmacy or medicine. The four or five International Congresses which each of the bodies representing these professions have previously held have heen far surpassed in numbers, prestige, and actual work by the gatherings in London during the past month. This is very much more markedly the case with the Medical than with the Pharmaceutical Congress.

The opening meeting at St. James's Hall was attended by about 3,000 medical men. On the platform were the Prince of Wales and the Prince Imperial of Germany. By them were Sir William Jenner and Sir James Paget, happily representing the medicine and surgery of Great Britain. They were supported by men of such world-wide eminence as Langenbeck, Pasteur, Virchow, Charcot, Donders, Austin,

Flint, and Pantaleone.

Sir Wm. Jenner, as chairman of the General Council, at first presided. In a short opening speech he claimed that science was even more influential than commerce in hinding men and nations together, and this, he claimed, was especially true of medicine. Mr. McCormac, the honorary secretarygeneral, read a report of what the Council had done. The Executive Committee had been appointed on May 8, 1880, and had since then held 33 meetings. Notice of the Congress had been sent to universities throughout the world, to 208 medical journals, to a large proportion of the medical men residing in all the countries of Europe, to 3,305 in the United States, to 874 in Australia, to 219 in New Zealand, to 166 in South Africa, to 170 in Canada, to 35 in China, to 97 in India, to 887 English medical men residing abroad, to all the registered medical men in this country, and altogether to 120,000 persons. A volume of abstracts of papers to be read at the meetings consisted of 719 closely printed royal oetavo pages, and contained 325 communications.

Sir James Risdon Bennett then proposed, and Professor Donders, of Utreeht, the president of the last Congress, seconded, the appointment of Sir James Paget as president of this Congress, and the resolution was carried by acclamation. Sir Wm. Jenner then presented the Congress medal to the Prince of Wales, and vacated the chair in favour of Sir James Paget. The Prince of Wales, having shaken hands with Sir James Paget, made a short speech expressing his

sense of the importance of the Congress, and concluding by declaring it open.

Sir James Paget, who well maintained his reputation as the chief orator in the ranks of medicine, delivered an opening address. He said this Congress would increase knowledge, not alone through the subjects selected for discussion, but also by the casual conversations of men of all kinds of mental power and all varieties of knowledge. Each could teach something; each could learn more. Truth would be evolved out of the apparent confusion, and all, even the sceptical and those in error, might help to promote it. Such a Congress produced pliancy of mind; the ability of selfadjustment to new methods of thought. The earth is re-plenished and suhdued, not altogether by tenacity and robustness, but also by pliancy and the production of varieties fitted to altered conditions. This idea was applied to intellectual strife. The variety of sections of the science led to a certain waste of power. By mutual criticism such Congresses helped to rectify that tendency to waste. But such a criticism might he applied to the many sections in which the work of that Congress had been itself divided. This led the speaker to discuss specialism in seience, the fault of which, he said, lies not in narrowness, but in shallowness and the belief in self-sufficiency, with which it is apt to be associated. If the field of any specialty in science be narrow it can he dug deeply, and may reach the richest stores of wealth. Such a Congress, with its variety of work, remedied the tendency to depreciate the work in which others were engaged. The early researches of naturalists, who studied the minutest of living things, the vibrionida, might seem to relate to a subject of little practical utility, hut these researches had led to great changes in the sciences of organic chemistry, surgery, medicine, and agriculture, and their power is not yet exhausted. So the anæsthetic effects of ether and laughing gas were left for a long time to itinerant lecturers and students, while mere practical men, looking only for what was straightway useful, missed the great discovery which has mitigated so much suffering. The practical lesson was, that each in his own field of study should search for truth, reflect, and record his ohservations accurately. Truth so recorded could not remain harren. The next 50 years would, no doubt, vastly extend knowledge, as the past 50 years had done; but the practical question was, What should each one of them contribute to that increase? Their work affected the bappiness and the misery of mankind, and, therefore, their responsibility was great. Their science was among the most noble; it offered the charms of novelty, utility, and charity, the greatest which could tempt pure and active minds. The happiness associated with their work was not dependent on moneymaking; some of them might become rich, but many of those who ministered to the follies and vices of mankind could make more money than they could. Let them not compete where wealth is the highest evidence of success, but let theirs be the nobler ambition of striving to make the future better and happier than the past, cultivating always that wide charity which is characterised by constant sympathy and gentleness, patience and self-devotion.

After the President's address had been duly applauded, as it well deserved, the members of the Congress separated to

their several sections.

Dr. W. H. Flower, Hunterian Professor of Anatomy, opened the section under that name. His address consisted mainly of a history and description of the Museum of the College of Surgeons. This owes its origin to the extraordinary activity of John Hunter, whose labours surpassed those of any collector of his time. He built a house for his curios in Castle Street, Leieester Square, and collected not only hiological specimens, but also minerals, coins, pictures, armour, and "articles of vertu." After his death in 1793, the miscellaneous articles were sold to supply the wants of his family, and the Government was pressed to purchase the anatomical collection. At first, Pitt absolutely refused to spend money on preparations, saying he had not enough to buy gunpowder with then, but in 1799 the Government paid the sum of 15,000l. for the "preparations," and handed them over to the College of Surgeons. The collection consists now of physiological, pathological, osteological, parasitical, dermatological, histological, and other specimens, and is unique in its extent and variety.

Professor Michael Foster, in opening the section of Physic-

logy, narrated the part which Englishmen had taken in the building up of that science, connecting the record of their work by references to the chief investigators of other lands. He gave sketches of the lives and labours of Harvey, Glisson, Willis, Boyle, Hook, Lower, Mayow, Stephen Hale, John Hunter, Priestley, and others. He considered that in past centuries England had well held her own against other lands; in the first third of this century, Bell, Young, and Marshall Hall contributed satisfactorily to the work of physiology; but since then he thinks Great Britain has not left on the physiological record a mark commensurate with the number, intelligence, and activity of her inhabitants. Of course the Vivisection Act was credited with a large share in producing this result, though it was not explained how that Act had managed to cripple the years which had elapsed before it came into operation.

Dr. Samuel Wilks, in the section of Pathology, alluded to a few of the theories as to the parasitic nature of disease

and the circumstances of its development.

Sir William Gull presided over the section of Medicine, and briefly commented on the programme arranged for that section.

Dr. George Johnson briefly opened the business of the subsection "Diseases of the Throat" by some remarks on the progress which had been attained in the treatment of such diseases in consequence of the invention of the laryngoscope, the originator of which, Signor Garcia, was a visitor to the Congress.

Mr. Erichsen, as president of the Surgical section, commented briefly on the eight different subjects into which the work of that section had been divided, namely, ovariotomy, nephrotomy, lithotomy, the treatment of wounds, of aneurism, of joint diseases, of cancer, and of syphilitic diseases

Dr. A. II. McClintock gave to the section on Obstetric Medicine and Surgery a sketch of the chief English exponents of that branch of the art previous to the present

generation.

Dr. Charles West presided over the "Diseases of Children" section, and mentioned that the honour of his selection had come to him just as he had taken up his residence in the South of France. He gave to Paris the credit of introducing special hospitals for children, and stated that 30 years ago there was not one such hospital in England and America. Now in London alone there are six, besides the children's wards in all the general hospitals. Great advance, too, has taken place in the study of the diseases to which children are particularly subject. Various fevers were formerly distinguished which are now all recognised as typhoid; the identity of diphtheria with membranous croup had, in his opinion, been established; and the successful treatment of many children's diseases had been greatly advanced.

Dr. Lockhart Robertson delivered a very interesting address to the section on "Mental Diseases." His subject was the condition of the insane in England, with comments on the method of treatment adopted. There are, it appears, 71,000 insane persons in England, or one in 350 of the population. Of these 90 per cent. are paupers, and of the rest the larger part are of the poorer classes. In Scotland there are 10,000 registered lunatics, of whom 83 per cent. are paupers. Dr. Robertson intimated his warm approval of Mr. Dillwyn's Lunacy Law Amendment Bill, which had been introduced into Parliament this session, and will allow the county asylums to provide special accommodation for private patients. Such provision would enable the poorer middle classes to obtain at a moderate cost the highest treatment and comfort, which they cannot obtain in the cheaper private asylums. He rendered a high tribute to the work of Dr. Conolly, to whose earnest efforts and successful practice at Hanwell was due the almost universal adoption of the non-restraint system. There are 15 registered lunatic hospitals in England for the middle and upper classes, such as Bethlem, St. Luke's, &c. The average weekly cost of maintaining patients in these is about 30s. Their average recoveries in proportion to the admissions during 1870-80 reached 46.84 per cent., while in metropolitan private asylums it was 30.5 per cent., and in provincial private asylums it was 34.7 per cent. Dr. Robertson expressed his preference for the treatment of all classes of lunatics in public asylums rather than in private establish- industry.

ments where the profits of the physician depended on the sums received from the patients. And he also expressed his belief that the system of boarding lunatics in private families might be considerably extended.

The section "Diseases of the Ear" was presided over by Dr. W. B. Dalby, who commented on the subjects laid down-

in the programme.

The president of the section of Dermatology was, of course, Mr. Erasmus Wilson. He principally commented on the constitutional treatment of skin diseases, which, without disregarding topical remedies, he said, British physicians chiefly relied on in their practice in this department. Eczema and its many manifestations he regards as generally depending on disorders of digestion and assimilation; pruritus and prurigo as depending on disorder of innervation; and papilloma and fibrosis as diseases of nutrition, though it must not be forgotten that there is often a blending of causes.

Mr. Edwin Saunders, in opening the section on "Diseases of the Teeth" confined himself to an explanation of the new condition of dentistry consequent on the passing of the

Dentists' Act.

Professor Longmore introduced the business of the section on Military Surgery and Medicine by a long account of the organisation of the medical staff in the British army and navy.

Professor Fraser presided over the section of Materia Medica and Pharmacology. Referring to the proposed discussion on the International Pharmacopæia, to be introduced by Professor Eulenburg, of Greifswald, he said he hoped also to have an expression of opinion on that subject from some of the distinguished pharmacists who were then conducting an International Congress with a success they in that section must try to emulate, and many of whom, he was glad to say, would favour them with their co-operation as extraordinary members. Referring to the insufficient facts on which remedies had in former times obtained popularity in the treatment of diseases, as, for instance, in the fanciful theories involved in the doctrine of signatures, which selected the carrot as the remedy for jaundice on account of its colour, Professor Fraser went on to describe the more exact experimental methods of testing drugs which had been adopted during this century, dating from Majendie's experiments with strychnine on animals, and illustrated especially by the investigations which led to the recognition of the virtues of digitalis in dropsy, and to the full acquaintance with anæsthetics. This, of course, led to a warm attack on the Vivisection Act, which Professor Fraser is confident has impeded the progress of medical science, and rendered original investigation almost impossible in the country of Harvey, Bell, Reid, and Christison.

Special features of interest in connection with this congress, to which we shall hope to have a later opportunity of referring, were the important addresses delivered by selected masters of the countries most numerously represented. These addresses were:—On "The value of Pathological Experiment," by Professor Virchow, of Berlin; on "Scepticism in Medicine in the Past and in the Present," by Professor Maurice Raynaud, of Paris, who unfortunately died before the date of the delivery of his address (it was read to the Congress by Dr. Féréol, of Paris); on "Our Medical Literature," by Dr. Billings, of Washington; on "Modern Surgery," by Professor Volkmann, of Halle; and on "The Connection of the Biological Sciences with Medicine," by Professor Huxley. The excursions, entertainments, and enjoyments generally provided for the Congress were on a lavish scale, and everyone concerned was kept fully occupied

from its commencement to its close.

A New Source for Citric acid.—At present, limejuice, from which citric acid is made, has to be imported into the United States, but the New York Commercial Advertiser says it could easily be produced from the fruits growing in Florida, if only sufficient energy were put into the work. Efforts are now being made to induce the lime and lemon growers of the South to prepare the lime-juice, and if this should prove successful, there being no reason why it should not, the entire production and manufacture of citric acid will be kept in the country, saving hundreds of thousands of dollars annually, and developing another great industry.

### The Pharmaceutical Council.

THE Council met formally on August 3, and in consequence of the International Congress then in session, adjourned, as had been arranged, till the following Wednesday, August 10.

On that day were present—Mr. T. Greenish (President), Mr. G. F. Schacht (Vice-President), Messrs. Andrews, Bottle, Butt, Carteighe, Hampson, Hills, Radley, Richardson, Robbins, Savage, Squire, Symes, Williams, Woolley, and Young.

The minutes of the July meeting were read and confirmed. The election of members, associates, and apprentices was then proceeded with.

#### FINANCE.

The report of the Finance Committee was read, and included payments of salaries and ordinary and extraordinary expenses amounting to 1,484*l*. 68. 6d. The report called forth no discussion and was adopted.

#### BENEVOLENT FUND.

The report of this Committee recommended only two grants of 5*l*. each. It was stated that a child, for whose election to the Metropolitan Orphan Asylum the Council had voted 35*l*., had been elected without any expenditure. The Committee further reported that 700 persons who had contributed to the fund had not paid any subscription this year, and recommended that a circular should be issued calling attention to the fact.

The Secretary mentioned that the new subscriptions also showed a falling-off, the total being about 500*l*. less than last year.

Mr. WILLIAMS said this falling-off of subscriptions was very serious, especially as just now the applications for assistance from the fund were very numerous. The result must be that they would have to restrict their casual grants, which, he believed, were of great value, and possibly also the number of their annuitants. He knew that there was much distress in the trade just now, but that was just the reason why every effort should be made by those who could to subscribe something, even if it were only a few shillings.

Mr. RICHARDSON thought there were many firms on the list submitted who would pay if solicited. He hoped the local secretaries would make direct application. He would not say there was great distress in the trade, but certainly, in consequence of the competition of co-operative stores and of persons who imitate them, the business was not so lucrative as it used to be. He was afraid that the unfortunate discussion which was raised at the annual meeting, and the asperity which accompanied it, had somewhat stifled generosity.

Mr. SAVAGE said if a friend would accompany the local Secretary it would probably have a good effect. They would hunt better in couples.

Mr. ROBBINS, having elicited from the Secretary that the second circular had been sent out only the previous evening, did not think the case was so bad. He was confident that subscriptions would come forward to keep up the Benevolent

Mr. YOUNG supported the suggestion of Mr. Savage. The report was adopted.

### THE LIBRARY, MUSEUM, LABORATORY, AND HOUSE COMMITTEE.

This report included particulars of the attendance at the library and museum, and donations and purchases for those departments. The reports of the Professors were submitted. Professor Attfield reported that 44 students had worked in the laboratory during the past session, the average period of study being  $6\frac{1}{2}$  months. The report was adopted.

#### LAW.-PARLAMENTARY.

At the meeting of this Committee on July 18 the Bill concerning the sale and usc of poisons, introduced into the House of Lords by the Duke of Richmond, was read and considered, and a deputation, consisting of the President, with Messrs. Bottle and Carteighe, was appointed to seek an interview with the Duke of Richmond.

The report of this deputation was presented to the General Purposes Committee, and that report was taken in Committe. After reading and discussing this report the Council resumed, when

The PRESIDENT explained that the deputation had waited on the Duke of Richmond, and explained the difficulties which would occur in regard to the Sale and Use of Poisons Bill. The Duke of Richmond consented to withdraw the Bill, and referred the deputation to Mr. Chaplin. The deputation went to the House of Commons, but, not finding Mr. Chaplin, obtained an interview with him the next day. Mr. Chaplin acknowledged that he ought to have consulted with the Pharmaceutical Council before preparing the Bill, agreed to withdraw it, and promised that before he introduced another Bill he would consult with the Council. The deputation told him they would be happy to meet him, and the promoters of the Bill, the Lincolnshire Agricultural Association, by introducing some additions to the schedules of poisons in the Pharmacy Act.

Mr. CARTEIGHE moved the reference of the subject to the Law and Parliamentary Committee again, to consider what poisons it might be desirable to add to the schedule. His resolution was carried.

Mr. SYMES remarked that this discussion in open Council did not show that the Bill had been withdrawn, almost on condition that certain poisons should be added to the list.

The President thought it would be better that the promoters of the Bill should make their representations in the first place to the Privy Council.

Mr. ROBBINS said that the point gained was that in the Bill of the Lincolnshire Association it had been proposed to bring certain poisons into the first part of the schedule of the Pharmacy Act, while now it was only proposed to put them in the second part.

Mr. WILLIAMS said the proper way to put the matter was that it was agreed that certain other poisonous substances, besides those already named in the Pharmacy Act, would only be able to be sold by registered chemists and druggists, and must be properly labelled, thus affording a guarantee that those commonly-used poisons should be sold with greater discretion.

The remainder of the report of the General Purposes Committee was then taken in committee, and, among other matters, dealt with the reports of the examiners for the Council prizes.

On resuming the Council resolved on the following list of

#### PRIZE AWARDS.

#### Chemistry and Pharmacy.

#### [Five months' course.]

Bronze Medal	Frederick Jas. Yeatman.
	[Ten months' course.]
~	77 11 61 7 1 77 1

Silver Medal Fredk. Chas. John Bird.

Certificates of Honour John Oldham Braithwaite.

Certificate of Merit. Thomas Lewis.

#### Botany and Materia Medica.

#### [Five months' course.]

	George Fredk, Callaway. Lewis Roberts.
[Ten months' con	urse.]
	John Oldham Braithwaite
(	Fredk. Chas. John Bird.

Certificates of Honour

Certificates of Merit

Certificates of Merit

Certificates of Merit

Fredk. Chas. John Bird. Charles Walker. William Kirkby. Andrew H. Cleland. Richard Henry Groves.

#### Practical Chemistry.

Silver Medal	Fredk. Chas. John Bird.
Bronze Medals	Thomas Lewis.
Dronze measus	John Oldham Braithwaitc.
Certificates of Honour	Richard Henry Groves.
Certificates of Honour	-{ William Kirkhy.
	(Charles Walker.

#### Botanical Prize.

Certificate of Merit..... Thomas G. Nicholson.

Pursuant to a conversation which had occurred in Committee, Mr. Hampson moved, and Mr. Andrews seconded, an irquiry for the numbers and names of all students who

had attended the lectures and laboratory during the past session.

• Mr. WILLIAMS urged that notice of motion should be given of this requirement, and Mr. Hampson consented to this, though he maintained that his motion arose properly out of the report which had been presented.

#### THE BELL MEMORIAL SCHOLARSHIPS.

The report of the examination for these showed that 18 candidates had submitted themselves, 7 of whom had been examined in London, and 1 each in 11 different towns in the provinces. The minimum number of marks which it was requisite that successful candidates should have attained was 267; that is, two-thirds of the possible total. Three students had exceeded this minimum, and the scholarships had been granted to Frederic William Short, with 288 marks; and to Richard Augustus Cripps, with 281 marks.

#### A PHARMACEUTICAL CURRICULUM.

The following report had been previously submitted to the members of Council:—

The special Committee appointed to inquire into the relation to each other of pharmaceutical cducation and the pharmaceutical examinations, commenced its duties by laying out a definite plan for its own action.

The following "Lines" indicate the scope and process of its inquiries:-

Line No. 1.—To formulate all that can be gathered from the records of the examinations for the past three years, thus:—

- (a.) The total number of candidates appearing for examination.
- (b.) The total number of individual candidates.
- (c.) The total number of failures for the three years.
- (d.) The total number of failures from general deficiency.
- (e.) The total number of failures from deficiency in the three technical subjects, viz., prescriptions, practical dispensing, and pharmacy.
- (f.) The total number of failures from deficiency in the three scientific subjects, viz., ehemistry, botany, and materia medica.

Line No. 2.—To request the attendance of members of the Londou Board of Examiners, and to question them generally as under:—

- (a.) As to any difficulties they may experience in the exercise of their
- (b.) As to their opinion of the average preparedness of the eandidates.
- (c.) As to the probable causes of deficiency in preparedness, should such be said to exist to any great extent.
- (d.) As to any processes for the rectification of defects (if any), either in the methods of the pharmaceutical examinations or in pharmacentical education generally.

Line No. 3.—To request the attendance of the professors, and other experts in teaching. The nature of the information and the character of the opinions to be elicited from these gentlemen to depend upon the impressions gathered from the facts and opinions revealed by the previous inquiries.

Line No. 4.—In the event of any special suggestious for changes being made, the Committee will have to examine:—

- (a.) Their abstract recommendations.
- (b.) The possibility of their general application.
- (c.) Their prohable direct results.
- (d.) Their pos-ible concomitant results.

The Committee has had frequent and prolonged interviews with the three professors of the Society; with four members of the Board of Examiners deputed to represent that hody; and with three gentlemen of large experience in scientific teaching and examining, not connected with the Society.

In addition to much information thus conveyed by word of mouth, these geutlemen have favoured the Committee with a condensed summary of their views in writing.

The individual members of the Committee have also brought the knowledge and experience they possess to the consideration of the subject; they have discussed and re-discussed the points suggested, and they report as follows:—

That an analysis of the statistics of the examination records for the years 1877-8-9, gives the following results:—

These failures may be thus grouped :-

From general deficiency—that is, from failure, after going through all the subjects, to get the required number of

marks					• •	82
From special	deficiency i	u preseriptions				112
,,	,,	dispensing	• •	• •	• •	82
,,	,,	pharmacy				103
"	"	chemistry	• •	• •	• •	355
**	.,	hotany				71
,,	"	materia med	ica	• •		156
						961

The total 961 heing 220 more than 741 is explained by the fact of certain failures having occurred in more than one subject; the division, however, serves to indicate the proportion in which deficiency of preparedness shows itself in the varions subjects; and it will be observed that in the three practical subjects—viz., prescriptions, practical dispensing, and pharmacy—the failures were 297; and in the three scientific subjects—viz, chemistry, hotany, and materia medica—the failures were 582, the proportion being nearly as one in the former group to two in the latter.

That the two special hodies consulted, viz., the Professors of the Society and the Board of Examiners, are dissatisfied with much that comes within the experience of their respective departments, the following points heing particularly indicated:—

- (a.) The imperfect mental training with which so many young men commence their so called scientific work.
- (b.) The large proportion who present themselves for class teaching, without any real intention of mastering the sciences taught.
- (c.) The generally prevailing intention to make as little knowledge as possible suffice to carry candidates through the examination, and the habit of regarding the passing of the examination as the chief purpose of that knowledge.
- (d.) The difficulty of properly estimating the value of what an examinee appears to know, due to complete ignorance of his previous training, and therefore doubt as to whether the answers given be a mere effort of memory or the expression of a mind that has really grasped the subject.
- (e.) And generally as to want of legitimate relationship hetween pharmaceutical education and the pharmaceutical examinations.
  - The Committee considers that sufficient grounds exist for these feelings of dissatisfaction, and also for making a distinct effort for their removal.
- Though encouraged to recommend the Council to make that effort hy the hope that in so doing it will render the execution of the duties of both teachers and examiners more satisfactory, its sole reason for urging any change is the desire to raise the standard of ability amongst those who practice pharmacy. It helieves that this can be attempted, with the largest hope of success, during the time of the student's pupilage, and by a process that aims at the promotion of genuine mental training simultaneously with the acquisition of sound technical knowledge. It also thinks that no consideration as to confronting the candidate with an apparent difficulty should be allowed to weigh against the imposition of a set of conditions framed with the object of hringing him to the examination-room more thoroughly equipped for the ordeal itself and for the creditable fulfilment of the duties of his life's work.

After the ullest consideration, therefore, of the whole subject, the Committee recommends—

#### (Recommendations.)

First.—That candidates for examination be required to produce evidence of apprenticeship or pupilage of not less than three years with some duly-registered chemist and druggist.

Second.—That the Preliminary examination or its recognise I equivalent he passed prior to apprenticeship or pupilage. This can be ensured by prohibiting a candidate from presenting himself for the Minor examination until three years after he has been certified to have passed the Preliminary examination.

Third.—That, upon presenting himself for the Minor examination, the candidate he required to produce evidence to show (in addition to the requirements indicated in 1 and 2) that he has, within the time then present and the date of his Preliminary examination, attended a course of lectures on ehemistry, a course of lectures on hotany, a course of lectures on materia medica, and a course of instruction in practical chemistry, of the scope and character hereafter to he defined.

Fourth.—That the Minor examination he divided into two portions—the technical, comprising practical dispensing, prescriptions, and pharmaey; and the scientific, comprising chemistry, hotauy, and materia medica—to he undertaken on two separate days, but as portions of one examination; the portion which includes chemistry, botany, and materia medica to be partly written and partly viva voce.

Mr. SCHACHT moved-

That the report and recommendations of the Special Committee appointed to inquire into the relation to each other of pharmacentical education and the pharmacentical examinations be adopted, and that the subject be referred back to the Committee for the consideration of details, and that the names of Messrs. Carteighe and Walter Hill be added to the Committee.

A recent resolution which he had submitted to the Council, he had brought forward, he said, with much hesitation, and that feeling had been justified by the result. Now he addressed the Council with a lighter heart, and he hoped his confidence contained the germ of a prophecy that he would carry the majority of the Council with him. The report before them was the result of labours which had extended over weeks and months. It was not necessary for him to go over it in detail, but he wished to assure the Council that neither he himself nor his colleagues had come to the work at that Committee with any foregone conclusion. The more they had looked into the matter the more clearly they had seen the necessity of such recommendations as those which they had made; but they had arrived at them by a gradual process, and he was persuaded that anyone who would give a careful consideration to the facts of the ease would be certain to arrive at something like the same conclusions. The Committee could not go further until the Council should confirm the recommendations herein made. The report showed the existence of facts which caused dissatisfaction and regret, and the conviction had been borne in upon them that an elfort should be made to remedy this condition of affairs. As stated in the report, the sole reason of the Committee for urging any change was a desire to raise the standard of ability among those who practise pharmacy.

Mr. SYMES, having seconded the appointment of the Committee, had pleasure in seconding the adoption of their recommendations. He could fully endorse the statement that the Committee had come to the consideration of this subject perfectly unbiased. Every suggestion had been received and considered with the utmost frankness. The recommendation of the division of the Minor examination had given rise to some little discussion. All felt that it ought to be divided, but it had been felt that there was some difficulty in bringing candidates to London on two different occasions. He, however, and perhaps others, had thought it would be very desirable that the two parts of the Minor examination could be separated by some period of time, and he should probably suggest in future that some such course of taking the written examination in scientific subjects should be adopted as was now followed in regard to the Preliminary examination.

Mr. SAVAGE said that after the result of the examinations for the Council prizes which they had heard that day, he thought such a proposal as this very desirable. With regard to the third recommendation, it would be important to know if it was intended that the schools from which the lectures were to be accepted were to be restricted, or whether the lectures could be attended at any local centre.

Mr. HAMPSON said that when he had joined the Committee he had done so with the intention of entering upon the investigation of a very important subject. The pith of the whole of this report was contained in the one word which they need not now express with bated breath-curriculum. The question was, were they prepared to institute a curriculum as preliminary to examinations? He had had very great difficulty in making up his mind, but he confessed he had arrived at that stage that he fully endorsed the resolution. The process by which his views had been developed had been in this way. They had a Pharmacy Act, by which the State had agreed to the desirability of an educational qualification for pharmacists. Given that amount of interference, and considering that there had been no protest on the part of the public, he thought they were bound to take all the steps necessary to ensure that the education should be efficient, not in their own, but in the public interest. He could not help calling to mind the recent meetings in those rooms, at which they had had so many representations of foreign pharmacy among them. Every individual among them was there as a representative of education and of capacity. If pharmacy is to thrive in this country they must see that its students were thoroughly educated, and he had come to the conclusion that they could not be thus educated without a curriculum.

Mr. Woolley expressed his admiration of the report which was before them, and remarked that the pith of the difficulty lay in the peint indicated by the Committee, namely, in the imperfect mental training with which so many young men commence their so-called scientific work. This was due, he considered, to the inefficiency of much of the fashionable advertised schooling of the present day.

Mr. Williams objected to one word in the resolution, and that was the word "adopt." If they "adopted" those recommendations they were engaging to do that which it was not legal for them to do. They might make bye-laws, but they could of themselves alter the laws which givern pharmacy. This proposal was to increase the stringency of the examinations for chemists and druggists. It might be right to do so, but let it be so understood. Was this the report of the Committee? The report, as entered in the minutebook, stated that it was "suggested by the Vice-President as the report of the Committee."

A long discussion arose over this point, but it was agreed that the words quoted were entered in the minute-book in error.

Mr. WILLIAMS proceeded to argue that while there were some of the recommendations which he should like to see become a part of the law, he could not vote for their "adoption," as it was not legal for them to doso. On the question of the curriculum, he referred to Mr. Schacht's speech on the education question before the Congress, in which he said that gentleman had used the very arguments which he himself would use against the aloption of a curriculum, namely, that in the present condition of pharmacy in England it was not possible to insist on a higher education. The fourth recommendation, he considered, would tend to make the Minor a more stringent examination than the Major is at present, and he questioned whether it was fair or right to put more impediments than Parliament had authorised in the way of men who wished to get their living by pharmacy.

Mr. Young, as the only representative from Scotland present, would like to say a few words on this proposition. He also had felt the word "adopt" to be rather a strong onc. He quite agreed that the recommendations should be referred back to the Committee. But before they "adopted" the recommendations they ought to know how it was proposed to carry them out. In Scotland there was often considerable difficulty in getting apprentices, and many were therefore taken before they passed the Preliminary examination. It was true they were generally taken for five years; so that if they passed within two years, there would still be three years available until the end of their apprenticeship. But he thought some difficulty would be caused. As regarded the courses of lectures, if they "adopted" these regulations they would fix themselves to certain subjects. Chemistry was no doubt a necessary subject; but it might be a question whether botany should be made a part of the curriculum, as he observed that the proportion of failures was very small in this subject.

Mr. CARTEIGHE explained that the table given did not show the cases where a candidate failed in botany altogether, and whose further examination was therefore abandoned.

Mr. Young had only wished to point out that it was necessary to proceed with care. He hoped something could be done to bring a better class of young men into the trade.

Mr. Schacht was willing for himself to use the word "approved" instead of "adopted," but Mr. Williams was not satisfied with that. However, after some discussion, he said he said he should be satisfied if the expression read "generally approved."

The PRESIDENT would have preferred to have only re-

The President would have preferred to have only received the report, but he was content to "generally approve" it.

Mr. Robbins was glad the representative of Scotland so generally approved of the proposal. In one repect, however, he could not agree with him. If it was advisable to make the change at all, he thought the sooner they set about it the better. He believed that if the preliminary examinations were insisted on before apprenticeship they would keep a large number out of the trade who ought never to enter it. Many commenced their apprenticeship without knowing correctly what would be required of them.

Mr. ANDREWS would have been content to have given a silent vote except for one expression in the second recommendation.

They could not ensure that the preliminary examination should be passed before apprenticeship by merely probibiting a candidate from presenting himself for the Minor examination until three years after he bad passed the Preliminary. He mentioned an instance of a youth whose friends were confident he could pass that examination, and who was bound to a pharmaceutical chemist, but who never had and never would pass it, and who now, at the age of 30, was still an assistant, and a very good assistant. They could only ensure it by some provision that the indentures should be cancelled if the youth did not pass that examination within a certain time. Perhaps they could not do this witbout going to Parliament. There were a great many such young men afloat, and unless some arrangement were made they would always have that difficulty cropping up. He believed that in the country young men were frequently taken as apprentices to do almost porter's work.

Mr. BOTTLE thought the proposition came at a very fortunate time. They had that day seen how much there was wanting in the education of those who come up for the examination, in seeing how few who had passed their Major examination were able to pass a satisfactory examination for the Council prizes. There was evidently something wanting in the system. He thought perhaps the proposal that candidates must have been apprenticed to registered chemists and druggists was rather a step back from free trade to protection. Might they not require only some evidence of three years' practical work? Besides, certificates of apprenticesbip could easily be procured for a sovereign. A similar requirement had been abandoned by the Apothe-

caries' Society for that reason.

Mr. RADLEY regarded this as one of the most important subjects which had been before the Council for years. He had long foreseen that a curriculum must come sooner or later, but they ought to be very careful about details. The tendency would be to make drysalters of many who would otherwise come into their ranks; and though he quite approved of obtaining that result, he saw that it might cause

an inconvenient deficiency of assistants. Mr. SCHACHT, in reply, expressed his gratification at the manner in which the proposal had been received. He saw that it was to some extent opposed to the spirit of free trade, and he quite appreciated that objection, as he had been in favour of free trade all his life. But he reminded the Council that the requirement of any qualification at all was equally opposed to the spirit of free trade, and that was already recognised. That the recommendations were not within the law as it stands he regarded as somewhat of an ad captandum argument. If they agreed that such a change was desirable it would be for them to endeavour to adapt the law to the necessities of their position. It was, of course, understood that they would make no attempt to carry these recommendations into effect until every person affected by them had had ample time to rectify bis position in regard to them. He agreed with Mr. Andrews that the word "ensured" was perhaps a little too strong. All that was intended was that it would not be impossible to gain the result, and this was suggested as a possible means.

Mr. Andrews said he wished them to go further, and provide that the master might cancel the indentures if the apprentice did not pass the Preliminary examination.

Mr. SCHACHT concluded by saying that they did not wish to throw any obstacle in the way of any earnest student, but thought that they would really help him to ultimate success by systematising his work.

The motion as amended was then carried unanimously.

#### THE INTERNATIONAL PHARMACEUTICAL CONGRESS.

The report of this Committee was taken. It comprised particulars of the arrangements made for entertainments, &c., and a recommendation that a full record of the proceedings should be printed in pamphlet form, to be presented to each delegate and others interested, and that the editor and sub-editor of the Journal should be requested to prepare such a record.

Mr. WILLIAMS asked what would be about the cost of such a work.

Mr. CARTEIGHE said probably about 1501.

Mr. SAVAGE moved that the report of the Committee be received and adopted, and wished to take the opportunity (f expressing to the Committee his most grateful thanks

for the admirable manner in which all the arrangements had been carried out.

Mr. CARTEIGHE, in seconding the resolution, said many of the foreigners had asked him when and where an authentic record of the proceedings could be obtained. He had told them that a report would appear in the Journal, but that he hoped also they would be able to publish such a record as was now proposed. They expressed much gratification, and asked that not only should a copy be sent to each delegate, but that a copy should be sent for the Minister of Public Instruction of each country, and one for each local Association. They had the type for the papers standing, and it was proposed that the papers read should be published in each of the three languages, but that the discussions should appear in English only, as that was the rule of the Congress. There would be about 400 foreign pharmacists who had taken great interest in the Congress, but who had not been able to attend, and who would be very glad to have such a record. He urged it, bowever, because be thought it would be an immense gain to pharmacy in this country.

Mr. WILLIAMS quite agreed with the desirability of publishing a report of the proceedings, but he was not sure

tbat they ought to make the Society pay for it.

Mr. CARTEIGHE asked who else but the representative body of English pharmacy ought to pay for it? If it cost 500%, he would hold up both hands for it, on the ground that the gain would be theirs.

Mr. HAMPSON thought the gain would be great, and

would not begrudge the expense.

The President expressed his gratitude to all those who had assisted to make the Congress such a success. The word "success" scarcely expressed his idea. The Congress bad been the most representative of any that had been held, and the most largely a tended. He believed, too, that it had done more through the reports in the public press to bring before the public the aims and objects of the Pharmaceutical Society than anything which bad occurred during the 44 years of the Society's existence. The public bad learned that their aim was to raise the scholastic and practical training of the pharmacist, so as to enable him better to aid the physician and provide for the safety of the public.

The report was then adopted.

Several votes of thanks were then passed to those who had

helped to promote the success of the Congress.

Mr. WILLIAMS would like to call the attention of Mr. Young to the fact that, while there were delegates from all parts of Europe and America and from the Colonies, there was no representative from Scotland.

Mr. Young was very sorry, and believed if it had been known how excellent the Congress would be, as he had heard that day, many of bis countrymen would have desired

to be present.

Some correspondence of no general interest was then disposed of, and the Council adjourned till October, it being stated that, as usual, summonses would be issued for the September meeting, but that no one would attend.

# The Chemists and Druggists' Trade Association of Great Britain.

MEETING of the Executive Committee was held at the A Office of the Association, 23 Burlington Chambers, New Street, Birmingham, on the 27th ult., at 1 P.M.,

Mr. Thomas Barclay, Birmingham, President, in the chair; Mr. Robert Hampson, London, Vice-President.

Present—Messrs. Andrews (London), Arblaster (Birmingbam), Barnaby (Rocbester), Churcbill (Birmingbam), Cross (Shrewsbury), Davis (Leamington), Harrison (Sunderland), Holdsworth (Birmingham), Jervis (Sheffield), Mason (Liverpool), McAdam (Glasgow), Pasmore (Exeter), Southall (Birmingbam), Stead (Leeds), Symes (Liverpool), Walker (Coventry), Williams (Mancbester), and the Solicitor of the Association.

The n inutes of the previous meeting were read and approved.

The SECRETARY said that in accordance with the instructions of the Executive he had communicated, through Mr. Floyd, of Bury St. Edmund's, with Mr. Hardcastle, M.P., with reference to the objections of the Association to certain clauses in his Medical Acts (1858) Amendment Bill. The correspondence that had taken place had been printed in THE CHEMIST AND DRUGGIST, and the Bill had been withdrawn.

The Solicitor sent the copy of a letter which had been received from the Secretary of the Medical Acts Commission, in reply to an application made on behalf of the Association, stating that the Commission had resolved not to supply from time to time copies of the evidence taken before it, and that the Commissioners regretted not being able to comply with the further request for the admission to their meetings of a member of the Association.

The VICE-PRESIDENT stated that the Sale and Use of Poisons Bill, recently introduced into the House of Lords by the Duke of Richmond and Gordon, had been withdrawn.

The following committees were constituted:—Law and Parliamentary.—The officers were Messrs. Andrews, Arblaster, Ball, Churchill, Cross, Davis, Harrison, Jervis, Maltby, Symes, and Walker. Finance.—The officers were Messrs. Arblaster and Churchill. General Purposes.—The officers were Messrs. Andrews, Arblaster, Barnaby, Bell, Churchill, Cross, Harrison, Jervis, Maltby, Mason, Pasmore, Stead, Symes, Walker, and Williams.

The Solicitor (Mr. Henry Glaisyer), Secretary (Mr. W. F. Haydon), Assistant Secretary (Mr. G. R. Templeman), Analytical Referee (Professor Attfield), Auditors (Messis Laundy & Co.), and Bankers (Lloyd's Banking Company)

were re-appointed.

The Committee then proceeded to consider a case prepared by the Oxford magistrates for the opinion of the High Court of Justice upon a point of law raised in a prosecution (Templeman r. Trafford) instituted by the Association under the 17th section of the Pharmacy Act, 1868.

The PRESIDENT said the case was one which showed the skill and ingenuity with which illegal trading was carried on. He was sure it was the wish of the Executive, if they could see their way to put it down, to spare no effort in doing so. If the defence in this case would hold water at all it broke down the Pharmacy Act altogether. It was of very great importance that they should look at the matter carefully and calmly before they went forward, because if they did so and were beaten steps would have to be taken to amend the Pharmacy Act.

The Secretary read the case as prepared by the Oxford

magistrates.

The CHAIRMAN said they would have heard from the statement read that their Assistant-Secretary went to Oxford in the usual way, and made a purchase at an illegal trader's shop. He found that the person who sold the poison paid the rates and the rent, and was the bona-fide tenant of the house. He brought the illegal trader before the Court in the usual way, and to his surprise this evidence in favour of the defendant was given by a chemist who lived in the town. When the matter came before the Committee here, and Mr. Glaisyer informed them that he could not get a case, they felt that the Executive ought to be able to look at it to see whether they could not obtain a case to appeal against, and Mr. Glaisyer went to the High Court, and a case had since been granted by the magistrates. The Executive had now the matter before them. If they allowed the decision to stand the system might extend, and he believed the chemist had threatened to extend his business in that direction if the present venture answered. They knew the issues, and their Solicitor would tell them what chance they had of

Mr. GLAISYER: I think you must succeed.

After some discussion as to the probable cost of the

appeal,

Mr. Andrews said that he thought there was no other course open to them but to appeal: the Act was evaded by a wrong address being given. Certainly the intention of the Act was, and a most important intention too, that the address given on the label should be the place at which the poison was sold, and he would move,

That the Solieitor be instructed to proceed in the appeal against the decision of the Oxford Bench of Magistrates in the case of Templeman v. Trafford.

The resolution was seconded by Mr. Jervis, and carried unanimously.

The Secretary said that two members of the Association, one residing in Leicester, and the other in Birmingham, had recently been served with notices by the clerk to the Society of Apothecaries threatening them with proceedings under the Apothecaries Act, 1815, for alleged infringements of that statute. In the event of summonses being issued in either of these cases the Secretary was instructed to convene a meeting of the Law and Parliamentary Committee to consider the same with as little delay as possible.

# Pharmaceutical Society of Freland.

MEETING OF THE COUNCIL, AUGUST 3, 1881.

PRESENT:—Professor Tichborne (President), Sir George Owens, M.D., Messrs. Bennett, Brunker, Hayes, Hodgson, Holmes, Simpson.

The minutes of the meeting held on July 6 were read and

signed.

A letter was read from W. S. B. Kaye, LL.D., Clerk to the Privy Council, enclosing a number of the *Dublin Gazette* for July 12 containing an Order in Council of that date confirming the resolution passed by this Council in November last:—

That the Chemical School of the Working Men's Institute, Belfast, be one of the schools from which this Society will accept certificates of practical chemistry.

Mr. R. SIMPSON moved, and Mr. H. BENNETT seconded:— That the certificates should in future be printed on parehment, instead of on paper as at present, and that the large size should be used as per estimate.

Passed unanimously.

The Registrar was instructed to have the above resolution carried out, and to ask the printer to prepare a sketch for a new certificate to be submitted to the Council at next meeting.

Mr. Whitla, Monaghan, was unanimously elected to

membership.

The report of the examination for the licence as pharmaceutical chemist, held on July 6, was laid on the table. There were only three candidates, all of whom passed. Their names are:—

Patrick John Devlin, Tralee, co. Kerry. Alfred Inwoed, 30 Bloomfield Avenue, Dublin. Richard Cox Webb, Wexford.

Mr. J. T. Holmes asked whether any delegates had been appointed to represent the Society at the British Pharmaceutical Conference to be held at York in the end of the present month.

After some conversation, it was resolved to leave the matter in the hands of the President, who promised to find out what members were likely to attend the Conference.

On the suggestion of Mr. E. M. Hodgson, Treasurer, the Council ordered the purchase of an iron fireproof box, to contain the minute-books and registers of the Society, the price to be 9l. 18s., less 10 per cent.

The payment of several small bills was also ordered.

The Berlin Physicians and Homgopathy.—With the exception of homgopathists, physicians in Germany are not permitted to dispense medicine, this being the sole privilege of the apotheearies. In connection with the feud now waging between the Berlin physicians and homgopathists, the former have sent a petition to Prince Bismarck setting forth at length their reasons and begging him to extend the prohibition to their homgopathic colleagues. Dr. Heinze, who was fined 100 marks and costs, &c., for reprinting Dr. Riegler's lecture at Berlin (see this journal, July 15, 1881, page 301), has been again fined 500 marks = 25L.—costs, &e., for libelling Dr. Stein, of Frankfort-on-the-Maine, a popular medical journalist, in the same way as he did the homgopathists. Dr. Riegler and the editor of the paper which printed his lecture, Dr. Boerner, have been each fined 100 marks by the Berlin Court.

#### HYDROBROMIC ACID.

#### BY WILLIAM GILMOUR.

HYDROBROMIC ACID is one of those preparations which we occasionally find come to we occasionally find come to be accepted and generally prescribed independent of their chemical or pharmaceutical history. A remedy which is thus accepted, even to a limited extent, generally has some therapeutic virtue, even though its origin may be erratic and unscientific. When it makes way, however, into every dispensary, and bids fair to become a candidate for honours in the revisions of our national pharmacopæias, it deserves better than to be left on such onsatisfactory footing. So far as hydrobromic acid is concerned, it need only be pointed out that, of the various methods which have been brought forward for preparing it pharmaceutically, no two, so far as we can discover, agree in strength; some of them do not even pretend to produce it in a state of purity, while the formula generally adopted in this country is not only crude but incorrect in form. The object of the present paper is not so much to suggest new methods for preparing the acid as to point out some of the peculiarities, &c., of each of the recognised processes, and the variations in the strengths of the preparations. In doing this it is needless to refer to processes such as the action of water on tribromide of phosphorus, or the transmission of bromine vapour through fused paraffin-processes more fitted for the laboratory of the scientific than the pharmaceutical chemist. Nor do we need to dwell upon other processes still, which, though practical enough, are not suitable owing to commercial or similar considerations. We could give an admirable working formula for its preparation by the decomposition of barium bromide with sulphuric acid, but the relative cost of an acid prepared from substances more or less expensive will, other circumstances being similar, probably always determine the mode of its production. There are, however, three processes, or, we should rather say, two processes and three formulæ, which have been given and pharmaceutically accepted, and these we may look at and consider in their order.

Fothergill's Process.—Dr. Fothergill was the first to introduce this acid to the faculty in this country (British Medical Journal, July 8, 1876), and probably owing to this his formula of decomposing bromide of potassium in given proportion with tartaric acid has generally been adopted. It has always appeared to us matter of regret that Dr. Fothergill, in the article referred to, did not distinctly state the strength which he intended his acid to be, for, in reviewing all that has been published on the subject, we think very considerable dubiety exists regarding it. As it is generally accepted, the formula is capable of yielding as near as possible an equivalent of 8 grains bromide of potassium in each fluid drachm, or about 51 grains anhydrous hydrebromic acid, calculating from the bromide of potassium taken. Practically the quantities are somewhat less than these, owing to the tartaric acid not being taken in proportion sufficient to thoroughly decompose the bromide. Now, from whatever aspect we view these quantities of 8 and 5 grains respectively, they are unsatisfactory. They have no scientific bearing, seeing they represent no relation to the combining proportion or acid percentage of the substances taken, nor can they be said to have any pharmaceutical value, as 8 grains of bromide cannot be considered in any respect a dose, while 1 fluid drachm (51 grains) of the acid has never been, and probably never will be, accepted authoritatively as the maximum dose. Dr. De Witt Wade, who claims to be the introducer of the acid, and whose first article regarding it appeared in a Detroit journal in the beginning of 1875, complains that, in transcribing his paper for a British medical journal, Dr. Fothergill does not allude to the fact that he had lessened the strength of the preparation as compared with the original formula as given by him. Now, it is possible that Dr. Fothergill may have intended to prepare an acid half the strength of Dr. Wade's, and blundered in his calculations, or there may have been some confusion between the terms "bromine strength" and "bromide strength" (terms which seem to have been indiscriminately used from the first in connection with the preparation), the intention in this last case being to prepare an acid which would represent 10 grains bromide, and not 10 grains bromine, as does Dr.

Wade's, to each fluid drachm. In support of this last supposition it is singular that, of all the American notes we have been able to come across, nearly all assume a 10-grain bromide strength, while if we take Dr. Fothergill's formula -and, considering its American orgin, it is no unwarrantable liberty to do so -and read it from the United States standards of weights and measures, we get a preparation, as near as possible, of a 10-grain bromide strength to each fluid drachm. The formula, as originally given, was as follows:--" For the production of the acid in quantities of 2 quarts. Dissolve 3x. 3vi. gr. xxviii. of bromide of potassium in four pints of water, then add 5xiii., 3i., gr. xxxvii. of tartaric acid. These proportions might be given into their British equivalents, thus:

```
Bromide of potassium ..
                                            .. 11 oz. 375 grains
                                           .. 14 oz. 212 grains
.. 66<sup>2</sup>/<sub>3</sub> oz.
Tartaric acid
                            .. ..
Water
```

It has already been pointed out that the relative proportions of the acid and the salt are incorrectly stated in the above. The following will more correctly approximate the proportions for 20 oz. of solution, of which each fluid drachm will contain an equivalent of 10 grains of bromide, and from this the weaker solution of Fothergill's strength may readily be calculated if need be :-

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Bromide of potass, 3 oz. 288 grains, dissolved in 15 oz. water
                  4 oz. 267 grains
Tartaric acid
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Other points will be referred to under

Wade's Formula.—Dr. Wade has given a process in no way differing from the foregoing than in strength. His proportions for 1 pint are :-

```
Bromide of potassium ..
                                                                                 \left. \begin{array}{cc} 5\frac{1}{2} \text{ oz.} \\ 7 \text{ oz.} \end{array} \right\} \text{ Water, } 20 \text{ oz.}
                                                                  ..
Tartaric acid
```

And he advocates these proportions because they are theoretically correct and yield an acid of known and uniform strength with a minimum of contamination. The theoretical strength represented by these proportions is stated to be 10 grains of bromine, equivalent to 15 grains bromide of potassium to each fluid drachm, while the minimum of contamination is thus put: - While the simple plan of decomposing bromide of potassium with tartaric acid will give us an article containing in solution bitartrate of potassium, and possibly free tartaric acid and bromide of potassium, if the proper proportions of salt and acid are used they can only remain as impurities by failure of complete chemical union of the base and the acid. It will be found that the amount of each unappropriated will be quite minute, and consequently entirely harmless and unobjectionable. The solubility of bitartrate of potassium (cream of tartar) is given in the United States Dispensatory at 1 part in 180 of water. Therefore, half a fluid drachm of hydrobromic acid contains about one-sixth of a grain of this impurity, which I am sure is sufficiently free from serious contamination to be regarded as unobjectionable."

—New Remedies, April, 1878. The sixth of a grain admission here shows that Dr. Wade is speaking from theory and not from practical knowledge. From careful experiment we have found that in Dr. Fothergill's formula about 57 per cent. of the theoretical quantity of bitartrate of potass is thrown down, while in Dr. Wade's formula about 52 per cent. only is precipitated. In other words, if we assume with Dr. Wade that all the bromide is decomposed, then the first formula will contain about 61 grains bitartrate in each fluid drachm, but the second (Dr. Wade's) will contain nearly 11 grains in each fluid drachm. This is also confirmed by the specific gravity of the two preparations after the precipitate was filtered out, these being 1.140 and 1.206 respectively. It is a curious fact, and worthy of being noted, that the solubility of the bitartrate increases with the strength of the acid in a nearly uniform ratio. Taking solutions four times the salt and acid strength of Dr. Wade's formula, and this nearly saturates the water at boiling-point, we find that one-half, as nearly as possible, of the theoretical quantity of bitartrate is kept in solution. It is for physicians to say whether any or all of these solutions are objectionable, but the contamination should at least be distinctly understood. In the more concentrated forms the bitartrate is thrown down on the addition of water, and more abundantly on the addition

of alcohol. An effort to get quit of the bitartrate by precipitating with strong alcohol was only partly successful, and practically such a process will be found to be all but unworkable. The attempt to distil the acid from the bitartrate was even less successful. In distilling a solution made from Wade's formula one half of the solution at least will pass over without giving almost the slightest trace of acid, the only reaction being that the distilled portion will change litmus. On cooling the portion that remains in the retort there is at this point no further precipitation of bitartrate. Proceeding with the distillation until about two thirds have passed over, the acid begins to act on the tartrate in the retort, and the distillate begins to have an odour of burnt sugar. If the retort is now cooled a precipitate will fall, but if the distillation is carried a little further the whole will get into a pasty uncrystallisable mass on cooling, and whenever it gets into this condition the product is spoiled. It need only be pointed out further, that however earefully the process is watched and the retort from time to time cooled for the purpose of precipitating the tartrate, it will sooner or later get into this condition and spoil the whole operation.

Squibb's Process.—Dr. Squibb has given a working formula for a solution differing both in its preparation and strength from the foregoing, and which we think important chiefly as forming a basis from which a more dilute and comparatively pure solution may conveniently be produced. The process is given with very great minuteness of detail, and, speaking from personal experience, with correctness, also, of observation, in the "Transactions of the Medical Society of New York, 1878." Shortly stated the formula and process are as

follows:-

Add to the acid one part of water and cool the mixture. Dissolve the bromide in six parts of water by the aid of heat, supplying the loss of water by evaporation during the heating. Pour the diluted sulphuric acid slowly into the bromide solution while still hot with constant stirring, and then set aside for 24 hours for the mixture to cool and the salt to crystallise out. Decant the clear liquid and transfer the erystalline mass remaining to a funnel to drain, and finally wash with two parts of water. Transfer the liquids to a retort and distil the whole until nothing further passes over on moderate heating. The distillate will weigh about 10 parts, and is increased by water to 11 parts, or until it has a specific gravity of 1.274. It is stated to contain 34 per cent. hydrobromic acid, but as we afterwards point out there is a mistake here. We can bear out the statement of Dr. Squibb that it requires the sulphuric acid nearly in the excess stated in the foregoing proportions to produce thorough decomposition of the bromide. In one experiment we took the simple theoretical proportion of acid and got a copious precipitate of what we shought was sulphate of potass, but which proved to be sulphate with undecomposed bromide. In this instance, on distilling the liquid we found it necessary to stop the process after about half had been distilled over, owing to "bumping" in the retort. On cooling, a second precipitate was thrown down, which was drained off, and the distillation then proceeded to the end. On estimating the product it was found to be only about half the acid strength which it ought to have been. The two precipitates were in consequence digested with more acid by the aid of heat, and the liquid again cooled and drained off from the crystals which had formed, and finally distilled, when the remainder of the acid, to close upon the theoretical quantity, was recovered. As there are one or two points in the process as given by Dr. Squibb slightly confusing, such as ordering and estimating the ingredients and product into parts, and as there are also one or two points slightly inaccurate, such as the density, we give the process as we have found it to work, together with the results which we have always obtained :-

 Bromide of potassium
 ...
 6 oz.

 Sulphuric acil (1.843)
 ...
 6½ oz. by weight, or 3½ fl. oz.

 Water
 ...
 ...
 9 oz.

Proceed as already directed, ignoring, however, the loss by evaporation, which cannot be well estimated, but which is inconsiderable if the solution is effected in a flask. If

the bromide is not quite dissolved by the aid of heat it will dissolve on the addition of the acid if care is taken not to let the solution cool to the point of rc-crystallisation before the acid has been all added and the bromide dissolved. When this part of the process is finished the solution should have more or less of colour ranging from a straw to a deep sherry, and should then be set aside for 12 hours for the potass salt thoroughly to crystallise out. If the solution is still retained in the flask it is better to shake or stir it from time to time, to eause the crystals to assume a granular form, and so prevent them caking, which in the flask is both troublesome and risky. On draining off the liquid, and transferring the crystals to a funnel to be washed with the remainder of the water (2 oz.) they will become pure white, will have a strong acid reaction, and on drying spontaneously will weigh from  $6\frac{1}{2}$  to 7 oz. We form no theory either as to the quantity or composition of these crystals, but give the mere facts as we found them. On distilling the liquid portion (which should measure as near as possible 10 fl. oz), about 1 fl. oz. of a heavy oily-looking liquid will remain in the retort, which with moderate heat fails to distil over. This, on examining, will be found to be sulphuric acid saturated with potass salt, the latter crystallising out on the addition of water. The distillate should measure not less than  $8\frac{3}{4}$  oz., nor more than 9 oz. If the former, it will have a specific gravity of 1:305; if the latter, it will stand as near as possible at 1.300, and this corresponds to 34 per cent. hydrobromic acid. Squibb fixed upon this standard because it represents half the bromine strength of the bromide salt, but medical men in prescribing the salt do not calculate the bromine strength, but take the salt as a definite article, just as they take water, not as so much hydrogen or oxygen, but as a single element. Still, the 34 per cent. standard may well be accepted for the stronger acid, not only because the process is workable and yields the product in a state of comparative purity, but also from the fact that either to increase or diminish the acid strength would involve practical difficulties without any corresponding advantage. To increase the strength, for example, there is the difficulty of the bromide in the foregoing solution being fully saturated at the boiling-point, while to diminish the strength there is the other difficulty of the acid sulphate formed in the decomposition being exceedingly soluble; so that increase of water would mean not only prolonging the process of distillation, but a stoppage at one or more points of the distillation for the purpose of crystallising out the sulphate. There is another advantage still in the stronger solution namely, that an acid of any weaker strength may readily be calculated and prepared from it. Say that an acid of Wade's strength is required, it is only necessary to keep in mind that, as there are 4 oz. bromide represented in each 6 fl. cz. of the stronger acid, then to 6 fl. oz. of the stronger acid. add  $8\frac{1}{2}$  oz. of water, and this will give  $14\frac{1}{2}$  fl. oz., as near as possible representative of Wade's acid, sp. gr. 1 126 = 16 per cent. hydrobromic acid; or, if an acid of 10 grains bromide strength to the fluid drachm is required, then to 3 fl. oz. of the stronger acid add 7 oz.  $7\frac{1}{2}$  drachms (8 oz. nearly), and this will give near to 11 oz. The sp. gr. of the product will be 1.085, and it will contain about 11 per cent. hydrobromic

#### LEECH FARMING.

MR. A. W. ROBERTS, in the Scientific American, gives some interesting facts about leeches and their characters. All leeches are not aquatic. In the East, and especially in Ceylon, a small variety is found in large quantities clinging to the brush and stone, which they resemble in colour, and waiting to attach themselves to any passing animal. Travellers through the jungle find themselves bleeding from innumerable punctures in their legs, where these land-leeches have affixed themselves.

There is, too, a minute American variety of leeches, which attach themselves to the native molluses, and are eaten alive in large numbers by the hard-clam lovers. Mr. Roberts says he had a mess of these leeches collected and cooked, and found them very palatable, and of the flavour of the highly-prized Little Neck clams, from which brand they

The Chinese regularly eat both marine and fresh-water leeches.

The best leeches in the market are Russian and Swedish, and are of a dark brown colour. The Hungarian leech is green in colour, with yellow stripes, resembling our horseleech. The German and French Governments were the first to offer large premiums for the encouragement of leech culture, but many years elapsed until a French fisherman, named Berchade, met with entire success, and at the same time accumulated quite a fortune, as leeches were at that time in great demand and brought high prices.

In 1841 a Mr. H. Witte established a small leech farm in Kent avenue, Williamsburg, Long Island. In course of time this small establishment was abandoned, and one of 13 acres was established near Newtown, L. I. His is the only leech farm in America. The breeding-ponds consist of oblong squares of  $1\frac{1}{2}$  acre each. The bottoms of these ponds are of clay, the margins of peat. In June the leeches begin forming their cocoons on the peat margins of the pond. These socalled cocoons are very curious objects, consisting of a frothy mass of gelatin material. Through this mass the leech introduces its body and deposits the eggs. After the eggs are deposited the open ends of the cocoon close, and the gelatinous material becomes more dense and glue-like. From each cocoon from 13 to 27 young leeches are developed. The young are hatched out by the heat of the sun, and begin to issue from the cocoons early in September. At first they are no tbicker than a pin, but at that early age are capable of cutting through the skin of a horse. At the end of three years these leeches are ready for the market.

The greatest enemies to young leecbes are musk-rats, water-rats, and water shrews, who dig the cocoons out of the soft-peat breeding-margins. Next to rats and shrows is over-heating of the peat or the water of the pond. In fact, nothing is so fatal to leeches as a too-bigh temperature. Mr. Witte says be has had leeches frozen in solid ice, but by slowly dissolving the ice and gradually increasing the temperature of the water the leeches sustained no injury. The depth of the water in the ponds during summer is 3 feet, in winter time the depth of the water is increased to

avoid freezing.

The leeches are fed every six month; on fresh blood placed in thin linen bags, which are suspended in the water. The leeches, as soon as they smell the blood, assemble from all parts of the pond, and attaching themselves to the outside of the bag suck the dissolving coagulated blood through the linen. Digestion proceeds very slowly in the leech, and more than a year will elapse before all the blood is digested in a fully-gorged leech, during which time the blood remaining undigested in the stomach of the leech is in a fluid state, as if just taken in. The excremental deposits are of a grass-green colour. The best substance for packing leeches in is the peat of their natural ponds made into a stiff mud. Water containing tannin, tanuic acid, lime, salt, or brackisb water must be guarded against always: iron is not objec. tionable, but is an advantage in small quantities.

The demand for leeches in the last few years bas somewhat fallen off in the Eastern and Southern States. The Western States and California are now the heaviest buyers. Mr. Witte's sales alone average 1,000 a day. The number of leeches impor ed to this country amounts to about 30,000

The custom of stripping and salting leeches, to cause them to disgorge after having been applied, has passed away, as many well-established cases have occurred of infectious diseases having been communicated on the application of the same leech to a second party. A very popular error exists that a leech when applied takes only the bad blood (whatever that may be) and rejects the good; this is a mistake. With a leech blood is blood, be it the cold blood of a fish or the warm blood of a human being, no matter how diseased that human being may be. So long as blood is fresh and not tainted or putrid the leech will thrive on it. The proprietor of a large leech-breeding establishment at the foot of the Harz Mountains, when wishing to feed his leeches hires poor labourers, at 6c. per day, to stand in the water for half an hour nearly up to their thighs that the leeches may obtain a full gorging of human blood.

The sensitiveness of the leech to temperature allows him to be utilised as a sort of barometer. A leech storm glass is

of peat with several smooth stones is laid. Soft water is then put in the jar, and when it is quite clear, two or three leeches are put in. The glass must always be kept in a cool and steady position. In settled fine weather the leeches remain motionless at the bottom. The approach of rain or snow brings them to the top of the water, where they will remain till settled weather returns. If a thunderstorm is coming they get above the water and display great uneasiness. On the approach of a windstorm they gallop about with great liveliness. The water needs changing every two weeks.

#### THE MEDICAL AND SANITARY EXHIBITION.

THE International Medical and Sanitary Exhibition at South Kensington, which was closed on Saturday last after being open just four weeks, has in some respects shared in the general success of the Congresses which have so cminently marked this summer. Close upon 500 exhibitors brought forward specimeus of their products, their payments for space varying from 2l. or 3l. to 40l. or 50l. Besides that income the committee will have, no doubt, received something in hundreds from gate-money, and bave made a net profit of several hundreds more on their catalogue. So that the results as far as the Parke's Museum of Hygiene, which is to obtain the ultimate benefit, is concerned, will not be unsatisfactory. The exhibitors themselves who probably joined in the euterprise with some views of their own in addition to a generous desire to beuefit the institution are naturally not so generally satisfied. They have not all got first awards, nor did all get corner positions. The chief source of complaint, however, with them scemed to be the comparatively little attention paid to the Exhibition by the medical world of Great Britain. Most of the foreign doctors visiting London are believed to have paid visits to the building, but those well acquainted with the medical practitioners of London especially, seem to have been much disappointed with the number of these whom they recognised. It was also a fair subject of something like dissatisfaction that the Congress created no special opportunity for a general visit to the Exhibition, though such a feature might well have found a place in their programme, with advantage to themselves as well as to the exhibitors.

There was, however, a fairly constant succession in the rather thin stream of visitors of the more advanced among British physicians, who seemed to appreciate the opportunity of making themselves aequainted with the aids to their practice which were offered by pharmacists, instrument makers, and engineers. Most of the chief exhibitors had representatives at their cases ready and eager to give information, and in many instances this duty was gracefully executed by ladies. It may be added that the cases not attended, except in special instances, stood excellent chauces

of general neglect.

There were nominally seventeer sections of exhibits, though the whole fell naturally into three or four great classes. The sections were thus described: -1. Surgical instruments and apparatus. 2. Obstetric instruments. 3. Ophtbalmic instruments. 4. Dental instruments. Aural instruments. 6. Appliances for the ward and sickroom. 7. Drugs, disinfectants, dietetic articles, and mineral waters. 8. Electric instruments and appliances. 9. Microscopes and optical apparatus. 10. Apparatus used in teaching medicine and other medical apparatus. 11. Physiological apparatus. 12. Street ambulances and other appliances used for the treatment of the sick and wounded. 13. Domestic and hospital architecture. 14. Ventilating, lighting, and warming.
15. Water-closets, sinks, baths, &c., sewage and drainage.
16. Water supply and filtration. 17. School furniture, window-blinds, clothing, books, &c.

The main purpose of this somewhat excessive classification was, probably, to allow for the appointment of a considerable number of judges, who, however, found their work far less easy than they had at first anticipated. It had been intended to announce the awards on the opening day of the Exhibition, a dream which indicated a very moderate experience of exhibition organisation on the part of somebody. made of a tall glass jar, with perforated tin top. A flooring A week's postponement was then announced, and when the

last edition of the catalogue was issued in the fourth week of the show, an apologetic page, stating that the list of awards was still incomplete, had to be inserted. (drugs, &c.) caused by far the chief trouble. Awards in the other sections had all been settled soon after the first fortnight. As we write the difficulty in regard to section 7 is still maintained. It appears that certain of the medical men on the jury complain that they have not been summoned to take part in the work, and they refuse to agree in the awards which have been agreed to by their colleagues. The exhibitors in this section cannot be expected to feel very amiably respecting this clumsily-produced dilemma.

Passing from the section of drain-pipes and fireplaces to that where pharmacy principally flourished was like a change from the kitchen to the drawing-room. The beautiful products of the laboratory were, in almost all cases, arranged with effect, and were very frequently exhibited in costly One of the handsomest displays was that of Messrs. A. M. Zimmerman, who exhibited a number of medicinal chemicals in large bulk, producing a magnificent effect. Most of these specimens were manufactured by Schering, of Berlin. Some of these were of special interest. A novelty was some cinnamic acid, manufactured according to a recent patent of Dr. Emil Jacobsen, of Berlin. This patent process yields a cinuamic acid, which can be sold at a low price, and therefore brings the product into trade as a rival to salicylic and carbolic acids. Several authorities declare it to surpass those chemicals in its antiseptic properties. Cinnamic acid is but slightly soluble in water (about 1 in 1,000 parts), but it dissolves freely in alcohol and moderately in oils, vaseline, &c. Some tannic acid, manufactured by Schering, was also interesting. was shown in rich golden brown hairs. It is manufactured by passing the moist extract through very fine sieves, thus drying it at ordinary temperatures. The drying of the extract in the usual way is said to convert a considerable portion into gallic acid. The iodoform in bright yellow scales, and the iodine and bromine salts of this firm were also noticeable. Messrs. Zimmermann also showed Finzelberg's pepsine, the Brunswick Company's quinine, Rhodin's potash and soda salts, Pasquale Brothers' bergamot and lemon, Goedecke's essential oils, Christoff's otto of rose, and various other products.

This demonstration of German chemistry was wellmatched in beauty, though not in size, by the remarkable and valuable collections of opium alkaloids, shown by Macfarlane & Co. and T. H. Smith. The other representatives of English chemistry were only Forster & Gregory, who showed chiefly refined sulphurs and hypophosphites, and Fletcher, Fletcher & Stevenson, whose collection included sublimed iodine, scale preparations, and concentrated liquors

for chemical syrups.

Coated pills formed a particular feature in this Exhibition, and illustrated the tendency of modern pharmacy. This tendency, it appears, is mourned over in some quarters. It is assumed that pharmacy will rapidly decay if it comes about that chemists are simply to become buyers and sellers of elegantly manufactured pills. This idea arises from a too high estimation of the merely mechanical art of pill-making. The druggist, as a tradesman, must aim to please his customers, and, as a simple matter of business, he will probably find it pays best to buy a good many of such products ready made. He will always find it necessary to make pills, and he may fairly aim to make them with the utmost artistic skill, but he will certainly find that he cannot for ever compete with machinery in mechanical operations, and it is hardly in harmony with the spirit of this century to grieve over such a fact. The coated pills shown were certainly admirable specimens of work, Messrs. W. H. Schiefflin & Co., of New York, who we reported last month had lost their first case and stock in the Atlantic Ocean, had obtained a new supply, and made a fine and varied exhibition. Their coating is a very thin film of gum arabic, with just sufficient gelatine to keep it pliant. It protects the mass perfectly, and is, of course, promptly soluble. Messrs. Schiefflin do an immense trade in coated pills in the United States, and it will be noticed that they have arranged with Messrs. Allen & Hanburys to represent them commercially in this country. Messrs. Richardson & Co., of Leicester, showed a large assortment of their soluble pearl-coated pills, and they had a second case containing samples of their other medicinal preparations, and specimens of their convenient compact, medicine chests. Messrs, Kirby & Co. also made a specialty of coated pills among various other preparations for hospital use. McKerson & Robbins' capsuled ovoid pills of course formed a special feature in the varied exhibit of Messrs. Burroughs, Wellcome & Co. Messrs. Warner & Co., in conjunction with Messrs. Newbery & Sons, were special for sugar-coated pills, and their display had a particularly tempting appearance. They showed us pound bottles of cathartic pills, the formula of which they give, which they supply to chemists with the name of the latter on a gold label on an elegant closed vase, thus bringing pills into the sphere of counter attractions. They do similarly with aromatic cachous.

General pharmacy was excellently represented. Messrs. Allen & Hanburys had a large display, among which two handsome vases of Tonga were prominent. Medicated pastilles, made in accordance with the suggestions of Dr. Prosser James, were offered for examination. Their Malted Farinaceous Food and their Perfected Cod Liver Oil, with a large variety of the newest pharmaceutical products, did every credit to this eminent firm. They also showed the cresoline vaporiser which they have lately introduced from America, which contains a lamp with a tray, and provides a simple method for inhaling the vapour of cresoline, which has been declared to be of great service in cases of whooping-cough. It is probable that the benefit accruing from the old-fashioned remedy of breathing the air at gas-works may have been due to the inhalation of this vapour.

Messrs. Corbyn, Stacey & Co. made a beautiful show. The whole range of lately introduced remedies and extra pharmacopæia preparations seemed to be included in this case, and suggested boundless hopes to the enterprising physician. Messrs. Corbyn showed, too, a number of the products with which they have specially associated their name-such as chaulmoogra oil and its active principle gynocardic acid, Liebreich's pepsin-essenz, and syrup of chloral, and perles containing various nauseous medicines. They had, too, a supplementary case, containing samples of the preparation of meat-juice manufactured by Mann & Valentine, of Richmond, U.S. This is the juice extracted from meat by hydraulic pressure, and contains all the albumen, as well as preserving the flavour.

Messrs. Savory & Moore had also a large collection of their manufactures, in which medicine chests in all varieties were prominent. They showed gelatine "lamels," or cards of gelatine, marked out each into 20 squares, each square containing a definite dose of some powerful medicine. The same principle was carried out on smaller cards, to provide convenient and accurate doses for hypodermic injections. This firm's other products are too well known to need

description.

Messrs. Evans, Lescher & Co. showed fossiline, and ointments made therewith; Mr. Martindale made an excellent impression by a case containing a considerable variety of pharmaceutical products of the somewhat rarer order; Messrs. Battley & Watts showed in the most quiet manner their famous liquors-almost the parents of elegant pharmacy-and still holding their own amid all the brilliant inventions of international pharmacy.

Messrs. Burgoyne, Burbidges & Co. showed Burggraeve's dosimetric medicines and other products, and Messrs.

Mackay & Co. had a case of their specialities.

Messrs. Burroughs, Wellcome & Co. occupied two spaces in the Exhibition, and were among the largest exhibitors in any section. Their many specialties are known to iu any section. chemists genenrally, and most of them are manufactured by some of the leading firms in the United States. Messrs. Wyeth & Brother, whose compressed tablets of chlorate of potash, &c., they have sold for a long time, now manufacture in the same manner, but of much smaller size, "soluble compressed hypodermic tablets," ready-dosed, according to various formulæ, with sulphate of morphia, sulphate of atropia, or sulphate of strychnia, always in combination with sulphate of soda as a most readily-soluble basis. showed also McKesson & Robbins' capsuled pills, Kepler's malt extract, Lawton's absorbent cotton, Bishop's citrate of caffeine, Symes' lac bismuthi, Murray & Lanman's Florida water, Fellow's compound syrup of the hypophosphites, Burrough's Hazeline, and various other products, besides the

"Enterprise" tincture press, and the Remington pharmaceutical still, which we describe elsewhere.

Messrs. Southall Bros. & Barclay showed besides their codliver oil, a soluble meat, tenax for surgical dressings, antiseptic pads, and aquarium sea salt. Mr. J. N. Davidson, of Dundee, exhibited a variety of cod-liver oil emulsions, and specimens of essence of rennet, and Mr. Pratt, of York, showed Agnew's cod-liver oil jelly.

Mr. Merck, of Darmstadt, exhibited an extensive variety of alkaloids. Messrs. Roberts & Co., of Paris and London, showed specimens of elegant French products. Lactopeptine, in all its compounds, was exhibited by Mr. J. M. Richards. Messrs. Blake, Sandford & Blake, besides aërated waters, showed soluble scales of guaiacate of lithia and thymol capsules. Messrs. Mettershead & Co., of Manehester, had a case containing Benger's pancreatised foods and liquor

pancreaticus.

Malt was in very strong force. Allen & Hanbury, Corbyn's, Mr. Loeflund, the Maltine Manufacturing Company, the Kepler Company, Oscar Björkborn, and probably other makers competed. Then Mr. Newman, representing Johann Hoff, of Berlin, and Mr. Leopold Hoff for himself and father, M. Hoff, of Hamburg, actively introduced their preparations.

Mineral and aërated waters of British and foreign origin were extensively shown. The Apollinaris Company had an imposing pyramid, and Hunjadi Janos, the Harzer, the Gerolstein, the Æsculap, the Victoria Ofner, St. Etienne arsenical waters, Bellthal, Pullna, and Mr. Gallais, as agent for Vichy and others, abundantly represented the medicinal waters of the Continent. We were glad to see some attempt to compete with these by the owners of certain home springs. Messrs. T. T. Hirst & Co., the proprietors of the Purton Spa, Wiltshire, were offering samples and bringing forward the merits of this water, which is a sulphated and bromo-iodated saline water naturally carbonated in cases of consumption, gout, and kidney disease. Mr. H. K. Stevens, of Flitwick, Bedfordshire, showed a strongly-impregnated aperient and chalybeate water from a spring at Flitwick, which is taken by the wineglassful. Mr. Hooper showed his artificial waters. Messrs. Evans & Co. showed Vin Santé, and also some of their Montserrat limejuice prepara-tions. "Specialité" lime juice cordial was shown by Messrs. Feltoe & Sons. The ehief assortment of aërated beverages was exhibited by Messrs. S. Gulliver & Co., of Aylesbury, whose products took three medals at the late Melbourne Exhibition. Their chief novelty was "Vinita," a very good imitation of the champagne flavour in a non-alcoholic beverage.

Disinfectants were represented by the Condy Fluid Company; Mr. Curtis, of Worthing, with chloricalcium, Jeyes' sanitary compounds, the base of which is creasote; Messrs. Calvert & Co., the Sanitas Company, and Mr. P. Hinekes Bird, F.R.C.S. Under this head may be mentioned Chartaline disinfectant blankets made by Messrs. H. L. Slater, of Manchester. They are made of paper, supply good warmth, can receive any disinfectant, and may be destroyed when they have served their purpose, as they are sold at from 2s. each. Mr. Rimmel had an exhibit under disinfectants making all around his department fresh and pleasant by means of his aromatic ozonizer, which diffused the healthful

and pleasant breezes of the Eucalyptus.

Of surgical instruments and medical appliances there was an admirable show. As will be seen from the list of awards in these sections most of the leading makers were represented. The exhibition of Messrs. S. Maw, Son & Thompson was an extensive and very varied one, and covered all the sections into which instruments were divided.

Mr. P. Bourjeaurd showed a number of his elastic spiral appliances, a special feature of which is that the elastic pressure can be made to vary in any part of the support. He showed stockings, for instance, with four different pressures. A novelty for which Mr. Bourjeaurd is agent was a tortoiseshell respirator to put inside the mouth, with a cavity into which cotton wool impregnated with any antiseptic agent could be inserted, especially adapted for those who are compelled to breathe infected atmospheres.

An excellent collection of lint of various qualities and of all sorts of bandages was shown by Messrs. Robinson & Sons,

Samples of a patent antiseptic marine lint, soft and strongly impregnated with tar, and selling at a very low Russell, William, elastic bandages and stockings.

price, were distributed by Mr. T. Westhorp, of West India Dock Road.

Messrs. Hooper & Co., of Pall Mall, showed every style of air and water-bed and cushion; and a patent form of air and water-bed, was shown by Messrs. Pocock Bros., of Southwark Bridge Road, being made in separate cylinders, so that one part injured leaves the rest unaffected, and also permits the easy application of the arm, the bed-pan, or bandages

to any part of the patient's body.

Messrs, James Allen & Son, of Marylebone Lane, showed a large number of appliances for the sick room, such as portable air and vapour-baths, bronchitis kettles, inhalers, carbolic spray apparatus, food warmers, bed baths, &c. The ingenuity and great serviceability of the manufactures of this firm have most fairly secured for them a first-class

award.

We have received the following, officially:-

This exhibition, which was opened on July 16 by Earl Spencer, will finally close on Saturday, August 13. The amount of public interest which it has evoked has been very considerable indeed, particularly among the professional classes connected with medicine, architecture, and sanitary engineering. In addition to the members of the Medical Congress, the Exhibition has been visited by the officers of Local Boards and other authorities from all parts of the kingdom, and the Government of New South Wales have appointed a commission to obtain some of the more important exhibits for the new Sanitary Museum now being established in Sydney on the lines of the Parkes Museum of Hygiene. As some indication of the amount of interest which has been taken in this Exhibition, the first organised by the Executive Committee of the Parkes Museum, outside its permanent collection at University College, we give the following statement of the number of visitors up to last Wednesday evening:

Opening day	4,340
Total daily admissions by payment	11,973
Total number of season-ticket holders	1,729
	18,012
Estimated number of members of Medical Congress admitted free	1,500
Estimated number of Fellows and other ticket- holders of the Royal Hoticultural Society ad-	
mitted free	2,000
M	
Total number of visitors from July 16 to August 10,	
allowing only for one visit by each season-ticket	
holder	21,542

#### LIST OF AWARDS.

Section 1.—Surgical Instruments and Apparatus.

JUDGES .- Thomas Bryant, F.R.C.S.; Christopher Heath, F.R.C.S.; Thomas Smith, F.R.C.S.; John Wood, F.R.S., F.R.C.S.

#### FIRST CLASS.

Cocking, J. T., poro-plastic felt for spinal-jackets, splints, &c. Krohne & Scsenann, the use of aluminium in splints, Leiter's irrigator and metallic tubes, and for general excellence of workmauship. Matthews Brothers, tracheotomy-tubes with guards, and steam spray-

producer.

Mayer & Meltzer, excellence of workmanship.

Weiss, John, & Son, vulcanite piston for syringes, and for excellence of workmanship.

AWARD OF MERIT.

Allen, James, & Son, steam spray producers and stands.

Arnold & Son, general excellence.

Bailey, W. H., & Son, elastic surgical appliances.

Bell, H., quality of indiaruhber work.

Bourjeaurd, P., spiral ribbon, elastic stockings, and indiarubber urinals.

Coxeter, James, & Son, excellence of workmanship.

Edwards & Bradley, ingenious adaption of indiarubber.

Evans & Wormull, instruments for the treatment of hernia.

Ferguson & Co., general excellence.

Hilliard, W. B., & Sons, splints for talipes, and for an "artificial larynx." Marr, David, spray producers, antiseptic dressings and appliances.

Maw, S., Son, & Thompson, general excellence, with moderate cost. especially in indiaruhher goods, elastic bougies, and laminaria tents. Millikin & Down, good quality of work.

Rohinson & Sons, handages and cotton wools.

Schramm, K. R., clastic gum bougies.

Secley, I. B., truss covered with vulcanite.

Southall Brothers & Barclay "sanitary towelling" and antiseptic pads.

Winter, R. J., & Co., handages, lint, and cotton wool.

Wright, C., & Co., portable spray producer.

#### Section 2.—Obstetric Instruments, &c.

Judge:.--Matthews Duncan, M.D., F.R.S.E., William S. Playfair, M.D., John Williams, M.D.

#### FIRST CLASS.

Arnold & Sons, general excellence. Hilliard W. B., & Sons, general excellence. Mayer & Meltzer, general excellence. Weiss, John, & Son, general excellence. Wright, C. & Co., general excellence.

#### AWARD OF MERIT.

Coxeter, James, & Son, general excellence. Krohue & Sesemann, general excellence. Matthews Brothers, general excellence.

#### Section 3.—Ophthalmic Instruments.

Judges.—George Critchett, F.R.C.S.; Prof. G. Carey Foster, F.R.S.; Charles Higgens, F.R.C.S.; Henry Power, F.R.C.S.

#### FIRST CLASS.

Anderson, Tempest, M.D., ophthalmometer.

Marratt & Ellis, artificial eyes.

Nachet, M., test glasses used by oculists.

Pickard & Currie, trial-cases of leuses, and opthalmoscopes of various construction.

Wci.s, John, & Fons, different kinds of ophthalmic instruments, especially knives, seissors, and forceps.

#### AWARD OF MELIT.

Hilliard, W. B., & Sons, ophthalmoscope.

Maw, S., Son & Thompson, ophthalmic instruments.

Majer & Meltzer, ophthalmic instruments.

#### SECTION 4.—Dental Instruments, &c.

JUDGES.—George Ibbetson, F.R.C.S.; Edwin Saunders, F.R.C.S.; Charks S. Tomes, F.R.S.

#### FIRST CLASS.

Ash, Claudius & Sons, general excellence.
Dental Manufacturing Company, general excellence.
White, Samuel S., general expellence.

#### AWARD OF MERIT.

Arnold & Sons, forceps.

Jamieson, W. & J., general excellence.

Maw, Sou & Thompson, forceps and pluggers.

Mill kin & Down, forceps.

Mayer & Meltzer, forceps.

Rutterford, G. W., general excellence.

Smale Brothers, general excellence.

Weiss, John, & Son, forceps.

Wright, C., & Co., forceps.

#### SECTION 5 .- Aural Instruments,

JUDGES .- W. B. Dalby, F.R.C.S.; Wm. Laidlaw Purves, M.D.

#### FIRST CLASS.

Weiss, John, & Son, general excellence. Wright, C., & Co., general excellence.

AWARD OF MERIT.

Coxeter, James, & Son, general excellence. Millikin & Down, general excellence.

SECTION 6. - Appliances for the Ward and Sick Room.

JUDGES. - Isaac Dohree Chepmell, M.D., Prof. John Marshall, F.R.S., A. O. McKe lar, F.R.C.S., J. C. Stelle, M. D., Mrs. Wardroper.

#### FIRST CLASS.

Al'en, James, & Sons, portable haths an't appliances for generating moisture.

Carter, John, invalid furniture.

Chorlton & Dugdale, "Excelsior" spring mattress for heas, couches, and chairs.

Hooper & Co., quality of indigruhher air bels and cushions.

Maw, S., Son, & Thompson, general excellence.

Pocock Brothers, tuhular air and water bed.

Stidolph, T. W., hospital hedstead with elastic cloth sacking.

#### AWARD OF MERIT.

Allen, Thomas, bedsteads and invalid tables.

Alment, E. J., general excellence.

Benham & Sons, general excellence.

Co'cman & Glen inning, sick-room furniture,

Day, Overman E., feeding-bottle.

Ellis & Co, cahinet Turkish baths.

Hamilton, W., invalid couches.

Hilton, E., meat and butter coolers.

Hort, Thomas, combined reclining hoard and chair.

Lee, Rohert J., M.D., steam-draught inhaler.

Lloyd, W. H., foot-warmers and baths.

Marshall, Thomas, feeding-hottle.

Martindale, Wm., "poor man's inhaler."

Mayer & Meltzer, surgical cradles.

McIlroy, Thomas, self-propelling chair and commede.

Monk, W., & Co., invalid furuiture.

Nixon, Newton H., bed-rest, and for caninet to keep excreta outside the hospital.

Price's Patent Candle Company, night lights and foot-warmers.

Slater, Henry & Leigh, "chartaline" paper blaukcts.

Taplin, Thos., & Co., invalid bedstead.

Twining, Thomas, mesopodium and crutches.

Tyler, Henry, & Son, hospital be isteads and cots.

Ward, John, invalid's mechanical bed. Wells, George, feeding bottle.

Winfield, R. W., & Co., mechanical hedsterds and cots.

#### SECTION 7.—Drugs, Disinfectants, Dietetic Articles, and Mineral Waters.

JUDGES,—E. Buchanan Baxter, M.D.; Dr. Rohert Farquharson, M.P.; Thomas Greenish (Pres. Pharm. Soc.), Thomas Hyde Hills, Prof. T. Redwood, Peter Squire.

#### (NOT READY.)

#### SECTION 8.—Electrical Instruments and Appliances.

JUDGES.—C. H. Golding-Bird, F.R.C.S.; Prof. G. V. Poore, M.D.; Prof. A. W. Reinold, M.A.; A. De Watteville, M.R.C.S., B.Sc.

#### FIRST CLASS.

Coxeter, James, & Sou, improved manganese-cell and other galvanic apparatus.

Thistleton, J. B., special excellence in every kind of electrical apparatus.

#### AWARD OF MERIT.

Indiaruhber, Gnttapercha, and Telegraph Works Company, Leclanche's medical-battery with conglomerate manganese plates.

Krohne & Sesemann, Stöhrer's (Dresden) medical-hattery, Leiter's (Vienna) galvano cautery and electrical polyscope.

Mayer & Meltzer, galvanic apparatus and cautery.

Weiss, John, & Son, galvanic-hatteries.

#### SECTION 9 .- Microscopes and Optical Apparatus.

JUDGES.—Lionel Beale, F.R.S.; W. B. Carpenter, C.B., M.D., F.R.S; E. Klein, M.D., F.R.S.; Prof. E. Ray Lankester, F.R.S.; E. A. Schafer, F.R.S.

#### (NOT READY.)

# Section 10.—Appliances used in Teaching Medicine and other Medical Apparatus.

JUDGES. -J. S. Bristowe, M.D.; Samuel J. Gee, M.D.; J. Warrington Haward, F.R.C.S.; Edmund Owen, F.R.C.S.

#### FIRST CLASS.

Mayer & Meltzer, new form of clinical thermometer.

#### AWARD OF MERIT.

Arnold & Sons, apparatus used in the investigation of discase.

Horu & Son, regulating digitorum.

Kapeller, H., jun., clinical thermometers.

Krohne & Sesemann, appliances used in teaching medicine.

Maw, S., Son & Thompson, general excellence.

Mottershead & Co., glass chemical apparatus.

McIlroy, Thomas, post-mortem table. Townson & Mercer, chemical apparatus.

#### wilson & Mercer, chemical apparatus,

SECTION 11.—Physiological Instruments.

JUDGES.—Michael Foster, M.D., F.R.S.; F. A. Mahomed, M.D.; Prof.
J. S. Burdon Sanderson, M.D., F.R.S.; Prof. Gerali F. Yeo, M.D.

#### FIRST CLASS.

Dudgeon, Dr. Ellis, pocket sphygmograph. Thistleton, J. B., physiological instruments. Windler, H. (of Berlin), myographion.

The five other sections chiefly concern sanitary matters. We notice, however, that in section 12—street-ambulances and other appliances for the treatment of the sick and wounded - Messrs. Savory & Moore obtain a first class and an award of merit. Messrs. Hayward Tyler & Co. receive a first-class award in section 15 for their Hopper closet, and an award of merit for valves and cocks in section 16. The Silicated Carbon Filter Company received a first-class award for filtering medium and filters in the latter section.

#### THE SMYRNA OPIUM MARKET.

Letter from Messrs. Barry et Cie., Smyrna, to the Editor of THE CHEMIST AND DRUGGIST.

#### SMYRNA, August 3, 1881.

DURING the past month our opium market has not much deviated from the prospects which we anticipated in

onr last report.

At the beginning of July transactions in ordinary qualities were effected at about 110 piastres, but that figure was not maintained, buyers refusing to go beyond 105 piastres. The latter price brought about heavy purchases, principally for China and for the Dutch Company, and consequently quotations have been maintained at that rate during the month. Current quotations are as follows:-

						Piastres
Ordinary		 		 		105 to 107
Carahissar		 		 • •		108 to 110
Yerli	• •	 		 		112
Bogaditch		 	• •	 • •	• •	115 to 117

As well as we can foresee, these rates will suit the extreme East, and if the demand should continue, quotations will run at about this figure. A decline can only occur if the demand should be arrested, so as to make our stocks accumulate and cause holders to discount the necessary heaviness of the market by forcing sales.

The small amount of last season's crop on hand is being sold as second quality, at 87 to 100 piastres, according to

value.

Arrivals to July 31 amounted to 2,016 cases, against 1,658 in 1877, when the total crop reached 9 450 cases. corresponding date of last year the arrivals had reached only 488 cases.

Sales to the same date comprise 1,262 cases, against 307 in 1880, and 511 in 1877.

At Constantinople, with 309 cases received, 179 have found purchasers.

Postscript.—We commence this month with less demand. This evening we have to report a certain weakness in the price.

#### NEW ZEALAND PHARMACEUTICAL SOCIETY.

THE annual general meeting of the Wellington members of the Pharmaceutical Society of New Zealand was held at the Panama Chambers on Wednesday, June 8, when there was a good attendance of members. The President (Mr. C. D. Barraud) occupied the chair. After explaining The President unavoidable delay in calling the meeting, which according to the rnles should have been held in March, for the election of officers, receiving statement of accounts and general business, he spoke of the satisfactory position of the Society, and urged upon the members the necessity of doing something to make it more attractive to the younger members especially, and that no time should be lost in establishing proper means for promoting the education of apprentices, examination being rendered compulsory by the passing of the Pharmacy Act. He was in hopes something might be done in connection with the Goological Department by and by, and that they would themselves possess a good library, which would be open to all the members, together with a collection of specimens; and, to commence this, he had asked his friends, Messrs. Baiss Brothers, of London, who had kindly promised him such a collection as they thought he would be prond of, which would be forwarded with his next shipment of goods from them. He hoped that this would be snpplemented by similar contributions from other London firms. While on the subject of education, he referred members to some articles on the subject by Professor Attfield in THE CHEMIST AND DRUGGIST some years back.

He mentioned also the arrival of Mr. Morgan, one of the proprietors of THE CHEMIST AND DRUGGIST, who had commnnicated with the secretary (Mr. Allan) and himself with reference to a proposal to snpply that periodical direct to the Pharmaceutical Society for each of its members on terms similar to those on which it is supplied to the Societies of

Pharmacy of Victoria and New Sonth Wales.

This offer he thought they should certainly accept, but he had pointed to Mr. Morgan that it was a matter which would have to be dealt with by the general Council, and it should be introduced at its next meeting, which would be in September. He then called attention of members to a proposed set of new rules, which had been carefully gone into by Mr. Prosser, of the firm of Kempthorne, Prosser & Co., with the assistance of a legal adviser. There were printed copies for each, and he would ask them to give them careful consideration, not that they were in a position to pass them without consent of general Council, but that members of Council should be in possession of the opinion of members generally when the subject comes up at its next meeting. He was in favour of some of the alterations, and thought that, on the whole, they would be found more workable than the existing rules. In conclusion, he spoke of the desirability of all doing their utmost to uphold the dignity of the profession, and regretted that, while it had been one of the chief objects they, as a Society, had in view, to raise the character of the business, there had been some in Wellington lately who, by their mode of conducting business, had tended to lower it in the eyes of the public.

The election of a councillor in room of Mr. E. Plammer, who had left the Colony, then took place, when Mr. George Mee was declared elected unanimously. Messrs. White and W. F. Barraud were unanimously chosen auditors for the present year. Mr. Allan, secretary and treasurer, brought up an interim report and statement of accounts for the past year, showing a satisfactory state of the funds-the full statement of accounts to be made up on return of the late treasurer from Sydney. Mr. Kempthorne, of the firm of Kempthorne, Presser & Co., made a very liberal donation towards the Wellington Reference Library of 100%, which was thankfully accepted, and a cordial vote of thanks accorded him. The President said that, having so handsome a donation, they would feel bound to follow it up by providing a suitable room to receive it, which seemed to be the

general feeling of all present.

The proceedings then terminated with a vote of thanks to the President, who gave notice to meet again that day month for discussing the proposed new rules.

POSTAL SAMPLES .- Messrs. Peek, Frean & Co. recently required to forward by post a large number of packets of samples weighing about 3 oz.  $\epsilon$ ach. The postage for these is 2d, from any part of the United Kingdom to another, and 1d. to any of the countries included in the Pos al Union. The samples were therefore shipped in bulk to Ostend, with the following result: -For 20s. are obtained 250 Belgian 10c. stamps, each available for the postage of a 4-oz. sample box to the United Kingdom; therefore, on the postage of each 250, the saving is 1l. 1s. 8d., or 1s. 8d. less than half the English rate. This 1s. 8d. much more than pays the freight outwards. The customs entry and petty charges are nominal and inappreciable on large quantities, so that to all samples of "biscuits sees" the actual saving is nearly 80s. per 1,000. On samples of "biscuits sucrés" the ordinary Belgian duty is levied, amounting in this case to about half a farthing on each sample, and to this extent the saving on these is decreased: but in either case the British Post Office receives only, say, about a third of a penny, for their distribution.



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CEE SEABURY & JOHNSON'S Advertisement of INDIA-RUBBER POROUS AND SPREAD PLASTERS on page 103.

PATENT VAPORIZER, ETC. PAGE'S See page 104.

The New Cooked Food for Infants, Children, and Adults, both in Health and Siekness. See page 97.

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.. 8/6 per dozen 24/0 ", less usual discount.  $\frac{1}{1\frac{1}{2}}$  size (containing 9 Powders) ... 4/6 70 ,, ,, 216 ,, ... 42/0 ,, , atscour \( \text{\Lambda} \) 11/0 net.
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TERMS—Cash with Order. Drugs Packed for the Colonies,

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CHEMIST, who has one of the largest and hand-A somest shops in the most commanding position at the West End of London, would be glad to Co-operate with a Gentleman or a Firm in introducing any legitimate article or articles of popular use or demand. There is a very large and airy basement comparatively unoccupied. Address, in the first instance, S. P. M., care of Messrs. Allen & Hanburys, Plough Court, Lombard Street, E C, to whom also reference may be made.

#### EMBROCATION. See page 30.

SPECIAL NOTICE pages 2. MAY BAKER.





#### THE INTERNATIONAL PHARMA-CEUTICAL CONGRESS.

No one can question the brilliant success of the International Pharmaceutical Congress as a social gathering. It brought into actual contact men from all parts of Europe and America who have hitherto known each other only in type. Pharmacists from France, Germany, Austria, Russia, Italy, Hungary, Belgium, Holland, Denmark, Norway, Sweden, the United States, the Argentine Confederation, and Australia, met in friendly intercourse, with pharmacists of the United Kingdom; no, with representatives of England and Ireland only. Ireland sent eight delegates; Scotland and Wales were, we believe, totally unrepresented.

We are very glad that British pharmacy has done so well. No one who has communicated with the pharmacists of the Continent can have failed to detect a trace of pity, not to say contempt, for the English drug trade, amid the politeness which is always extended by them to any English pharmaceutical visitor. They have heard travellers' tales about hucksters' shops and their ignorant owners, and they have concluded that English pharmacy was generally of that character. It is said that a Frenchman once landed at Southampton and took a day's trip into the New Forest. He entered into his diary, for the information of his friends, "England, outside her cities, is one vast forest." This is somewhat the same principle on which British pharmacy has been judged abroad; perhaps some visitors may discover that the comparatively free-trade system which prevails here, while it necessarily leaves a lower grade where such is wanted, also permits development of the business to a position at least as high as is attained even under the closest form of restriction. But English pharmacists, too, had much to learn, and might learn much from their visit. One thing, at least, was patent. These men respect the profession they follow, and in all countries of Europe they have forced the governments and the medical men to respect it too. Russia, Italy, and Belgium sent to this Congress delegates accredited by their respective governments. In that respect, undoubtedly, as well as in the general standard of education, foreign pharmacists are much in advance of ourselves, and show us a road on which we may fairly hope, by steady gradual work, to advance.

It is not hypercritical to say that in the main the serious work which filled the half-dozen sessions of the Congress had a somewhat artificial air. The work, in fact, was made for the Congress, not the Congress for the work. Still, the learned gentlemen who discussed the matters did so with a very earnest air. There was no pretence of gaining any actual result, except in one particular. The prospects of an International Pharmacopæia are, perhaps, a little advanced, though that is putting the matter quite sanguinely enough. When it is remembered that this object has been sought after now through five Congresses and 15 years, it cannot be said to be very good progress to have only got to the point of naming two dozen gentlemen as a Commission to correspond with each other over two hemispheres, particularly as there seems to be an almost hopeless disagreement among those gentlemen and those whom they represent as to the scope of such a Pharmacopæia. In England it is felt that all that it is practical and, perhaps, desirable to accomplish is, to bring into harmony just those few preparations in which the existing difference in strength might have a fatal result if a prescription were dispensed according to one and the other formula. The French representatives seem to desire a much more comprehensive scheme. That is the preliminary difficulty; every step in advance will indicate others. The pharmacological section of the Medical Congress resolved, we believe, to appoint an International Commission to work in harmony with ours in this matter. Whether that assistance, or patronage as we perhaps ought to term it, will expedite matters may be, perhaps, an open question. On the other hand, however, the result aimed at is so obviously desirable that it may prove easier to do a little between now and the next Congress at Brussels than seems probable. That the machinery is too massive for the work is evident, but it does not seem clear how it could be accomplished in a simpler fashion.

It would, however, be totally incorrect to leave the impression that the Congress has served no better purpose than has been indicated. Its indirect results are its justification, and these, we suppose, can be appreciated by every one though they cannot be definitely stated.

# THE BRITISH PHARMACEUTICAL CONFERENCE.

THE occurrence of the International Congresses which have occupied the attention of London doctors and chemists does not diminish the ardour of the promoters of the British Pharmaceutical Conference and of the British Association for the Advancement of Science. Both Societies anticipate that the York meeting now forthcoming will be one of the largest in their histories. This will be the Jubilee occasion of the older body, and in recognition of that fact the Association very appropriately returns to its native city. Pharmaceutical Conference, as usual, follows it, and, by a happy coincidence, is to have for its president in the famous old city Yorkshire's most eminent pharmaceutical representative. The meetings of the Conference will be held in the quaint old Merchants' Hall, Fossgate, York, on August 30 and 31, under the presidency of Mr. Richard Reynolds, F.C.I. Mr. Joseph Sowray, 57 Petergate, York, has generously burdened himself with the labours of the honorary secretaryship. York, besides being an excellent startingpoint for many excursions, has numerous attractions of its own. The Minster, that noble edifice of which all Yorkshiremen and all Englishmen (who have seen it) are so proud, St. Mary's Abbey and grounds, the Wilberforce School for the Blind-formerly the Palace of the Stuart Kings-the Guildhall, the Bars, Walls, &c., will amply repay a visit. The Museum of the Philosophical Society, in addition to the many objects of interest which it contains, possesses a unique collection of Roman York. The Hall of the ancient company of Merchant Adventurers, where the Conference will meet, contains a collection of portraits of merchants of the olden time, and views of ancient York. This building also includes a chapel, the entrance to which is through a door in the floor, the chapel being used by the Merchants' Company for Divine service on their annual court-day. A Fine Art and Industrial Exhibition is now open in York. There are some noted botanical gardens within easy distance, and the works of the York Glass Company offer special interest to members of the Conference. On Thursday, September 1, an excursion has been arranged to Studley Royal (with the grand ruins of Fountains Abbey), the delightful seat of the Marquis of Ripon, and the local committee feel confident that it will afford great pleasure to all who are able to be present on the occasion. Harrogate, Scarborough, Whitby, Castle Howard, Duncombe Park, and Riveaulx Abbey are also in the immediate neighbourhood. An enjoyable excursion is, no doubt, ensured for those who are able to take advantage of it.

#### A COMPULSORY CURRICULUM.

THE Pharmaceutical Council have now definitely committed themselves to the opinion that a compulsory curriculum of education of some sort, to be imposed upon all candidates for examination, is desirable. That they will be less unanimous when they come to discuss details is quite possible, but as far as this Council is concerned the principle is established. That is to say, the principle of its desirability. Its accomplishment depends not upon them, but upon the good pleasure of the Privy Council. It may

be said, if they get a little more restriction put upon the entrance into the trade of inferior men, so much the better for the trade. But if the inferior men are needed, that logic will not satisfy the Privy Council. The question for the latter body is simply whether the present examinations suffice to guarantee the security of the public; their inspector, Dr. Greenhow, says they do; and the Pharmaceutical Council do not at present address themselves to that essential question. With the best will we confess ourselves not able to see the relevancy of the facts given in the Committee's Report, and the conclusions arrived at. To put their facts briefly, we are told many young men of imperfect mental training aim at this trade; that many present themselves for class teaching (mark that) who only intend to learn what is necessary to carry them through. This proves that pharmaceutical students share in the general depravity of the human race, but it proves nothing in regard to those who do not present themselves for class teaching, and these are the persons with whom we are concerned just now. More relevant, perhaps, is the statement that the examiners find a difficulty in estimating the genuineness of a candidate's professed knowledge. But it appears that the examiners do already return 7 out of 10 of the candidates who present themselves, so that we may suppose that they do not often give candidates the benefit of the doubt. But what we ought to be told, is whether these candidates, who give all the trouble, are school-taught or self-taught candidates. That is where the argument hinges, because if they are school-taught, the logical conclusion would be to discourage schools.

Mr. Williams, perhaps correctly, suggests that the desire exists to stiffen the examinations, to raise the Minor or qualifying examination to the standard of the Major. To prove the desirability of this we want quite a different set of figures. Some would be easily attainable. Will the Council ascertain from the North British Branch how many pharmaceutical chemists applied for the situation of secretary to that branch, which they lately advertised at a salary of 150l.? Will they also endeavour to learn how many pharmaceutical chemists who have passed their examinations in recent years, and who combined business abilities with scientific attainments, have abandoned the counter for something better? Perhaps the answers to these questions might help to prove whether the Major examination is or is not a too high standard to be the qualification for entrance into the trade.

# EXPURGATION OF THE DENTISTS' REGISTER.

SINCE the defeat inflicted on the British Dental Association by the decision of the Medical Council, in the matter especially of a large number of chemists' assistants who had been registered as dentists, on their own statement that they had bonâ fide carried on the practice of dentistry in conjunction with pharmacy, a considerable party among the dental body have been constantly complaining about the hardships of their lot. It will be remembered that their own counsel, Mr. G. A. R. Fitzgerald, the gentleman, we believe, who was responsible for the framework of their Act, had supplied them with an opinion to the effect that a person who had registered as having practised dentistry in conjunction with pharmacy, if he did not appear on the register of chemists and druggists, had made a false declaration and was liable not only to have his name removed from the dentists' register, but was further subject to a period of penal servitude. Notices to that effect were circulated among a number of chemists' assistants, and a good many came into our hands.

The Association did not make it particularly prominent at the time that the opinion which they quoted was merely a counsel's opinion and not an authoritative judgment; nor did they make it known that the author of the opinion which they pub'ished was the author of the Act, a carelessly worded passage of which he was now undertaking to interpret in the direct interest of his clients. When the matter came before them, the Medical Council, it will be remembered, obtained the advice of the Solicitor-General (Sir John Farrar Herschell) and Mr. Montague Muir Mackenzie. Their opinions were very definitely in favour of the chemists' assistants. They said, in effect, that whether they practised pharmacy legally or illegally, bona fide or malâ fide, did not affect their position as dentists. On this, the Medical Council refused to erase the names submitted to them by the Dental Association, and further offered the opportunity to re-register free those persons who had been influenced by the threatening circular of the Association to apply for the erasure of their names. The Association, through its organ, seemed at first inclined to submit with resignation to the defeat. But the more militant of the members have pushed forward the others, and a new opinion opposed to that of Sir J. Herschell has been obtained, and a guarantee fund to the amount of nearly 400l. has been subscribed. It is amusing to notice how careful the Association now is to draw attention to the distinction between a legal opinion and a judicial decision.

A case was submitted to Sir John Holker, Q.C., M.P., Mr. R. S. Wright, and Mr. G. A. R. Fitzgerald. The "case" ubmitted gave a history of the Dentists' Act, and of the dispute which followed, written, of course, with the pen of the Dental Association, and comprising the opinions of Sir J. F. Herschell and of Mr. Fitzgerald. The following were the opinions of Sir J. Holker and his associates:—

#### Question I.

What is the true construction of Sub section C of Section 6, i.e., is Sir F. Hersebell right or wrong in his opinion?

#### Opinion.

The 6th Section of the Dentists Act, 1878, enacts that "any person who . . . . (C) is at the passing of this Act bond file engaged in the practice of dentistry, or dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy . . . shall be entitled to be registered under this Act."

We are of opinion that the words "practice of medicine, surgery, or pharmacy," refer to legal practice of these professions by duly qualified persons. Even if this were not the natural meaning of the words taken by themselves, we think they must receive this interpretation under Section 34 of the Medical Act of 1858 (21 and 22 Vict., chapter 90) in the case of medicine and surgery, and under Section 12 of the Pharmacy Act, 1852 (15 and 16 Vict., chapter 56), and Section 1 of the Pharmacy Act, 1868 (31 and 32 Vict., chapter 121), in the case of pharmacy.

We are further of opinion that persons who at the passing of the Act practised dentistry, at the same place in conjunction with another business or profession (not heing medicine, surgery, or pharmacy, as above interpreted), are not entitled to be registered under the Act. In each ease it will be for the Council to decide as a matter of fact, whether the person's real busine s was dentistry. They would not be precluded from so finding merely by the circumstance that he occasionally or incidentally, or at some other place, carried on another business, but a person whose real business was that of a hlacksmith, watchmaker, or veterinary surgeon would not in our opinion be a person who was "tond fide engaged in the practice of dentistry or dental surgery," within the meaning of the Act, merely because he added to that business the practice of dentistry.

#### Question 11.

If wrong, what is the best mode of proceeding to obtain a judicial decision on the Section?

#### Opinion.

We think that practically the only means of obtaining a judicial decision will be for the Council to expunge from the register the name of some person who, according to the view which we bave taken, was not entitled to be registered. The que tion can then be tried on a mandamus to restore the name. The Council would no doubt be prepared to give every facility for this purpose,

July 14, 1881.

The cool injustice of the method proposed to settle the question is utterly unworthy of a lawyer in Sir J. Holker's position. The Medical Council, who are authorised by law to decide on disputed claims to registration, have, after careful consultation with eminent legal authorities, ruled against the plea of the Dental Association, and in favour of A. B. and C. Now, says Sir John Holker, let one of these persons, to whom you have granted certain rights, be deprived of those rights for experimental purposes. "The Council," he says, "would no doubt be prepared to give every facility for this purpose." The Medical Council, we are happy to say, are not at all prepared to enter into such an immoral compact. The new opinion was submitted to their Executive Committee at their meeting on July 28, being officially forwarded by "James Smith Turner, hon. sec. B. D. A." The Executive Committee resolved:-

That the Committee acknowledge the receipt of the foregoing communication, and inform Mr. Turner that, in the opinion of the Committee, the steps requisite to be taken to try the correctness of the course taken by the General Council, under the advice laid before it, rests with the Dental Association, and not, as suggested in the opinion now forwarded, by the removal of a name which, in the judgment of the Council, is registered in conformity with law.

What is there to prevent the Association applying for a mandamus to compel the Medical Council to remove a certain name, and thus raise the issue that way?

#### PATENT MEDICINES IN BELGIUM.

THE polyglottic discussions on the conditions of pharmacy in the various countries of Europe at the recent International Congress at least revealed the fact that the somewhat grandmotherly relations which, to a greater or less extent, prevail all over the Continent between pharmacy and the State have not yet quite succeeded in satisfying anybody. No one seems to wish for exactly his neighbour's system, and yet no one is perfectly contented with his own. The sweet simplicity of the Anglo-Saxon system is attractive neither to French nor Germans, but it is very doubtful whether better acquaintance with the more protective, but at the same time more restrictive, fences of foreign pharmacy will tend to increase a desire for imitation here.

A case has been for some months before the Law Courts in Belginm, and still awaits final decision, which illustrates the possibilities of the State control of pharmacy. A long account of it is published in the July number of the *Pharmaceutical Journal* of Antwerp, from which we extract the facts.

A M. Tielemans, a pharmacien of Antwerp, makes and advertises certain "neuralgic pills." The Medical Association of that city got up a prosecution against him, alleging that by this business he had practised the art of medicine, or at least had gone beyond the limits of his rights as a pharmacien. That he had treated diseases, prescribed, and given medicines to patients on his own authority. That he had furnished poisonous or soporific substances otherwise than in accordance with a medical prescription, or at least that he had not preserved the prescription for such substances as he was required by law.

The tribunal of the first instance of Antwerp first heard the case last December, and found that Tielemans had undoubtedly sold and advertised these pills. But they concluded that the advertisement of a remedy was not in itself an offence; that in selling these pills Tielemans could not be said to have "practised medicine," because they considered that to "practise medicine" involved an examination of the patient and a diagnosis of the disease. All that the defendant had done was to publish his theory of a certain disease, which he or anyone else is at liberty to do, be that theory true or false, wise or foolish; and that he had

sold the pills when they were asked for. As to the charge of delivering poisonous or soporific remedies without the order of a physician, the Court found that the pills certainly contained medicines which in sufficient doses were poisonous and soporific, but that in the doses named they were not so, and they, therefore, concluded that the law had not been infringed. A judgment was given for the defendant, and the plaintiffs were condemned to pay all costs. The Medical Association appealed, and the case came before the Court of Appeal at Brussels on June 23, which fully confirmed the judgment of the Antwerp Court, again condemning the plaintiffs to all the costs. The latter have once more appealed, and the next judgment will be definitive.

# VISCOUNT SHERBROOKE ON THE BANKRUPTCY LAWS.

VISCOUNT SHERBROOKE, in the current number of the Nineteenth Century, asks, What shall we do with our bankrupts? and answers his question in a style and manner which would certainly not enhance the reputation of Robert Lowe, but which will help to reconcile most politicians to the absence of that rather erratic statesman from the innermost circle of the Legislature. Viscount Sherbrooke still aims at the pith, point, and paradox with which the contributions of Mr. Lowe to public opinion were generally credited, but either his hand has strangely lost its cunning or we must have lost our appreciation, for in the article before us the style seems to be as lame-we might almost say slovenly—as the argument appears forceless. That, at least, is the impression on one who began the article with the certain anticipation of a clever, if not a complete, treatment of the subject.

After a few preliminary truisms about law not being made for lawyers, Viscount Sherbrooke undertakes "to retrace the history of the Bankruptcy Laws, and to mark the steps by which a code which has existed in one shape or another for so long a period now comes, in the fulness of time and the exhaustion of every conceivable remedy, to be re-created, or at any rate redressed." The "history" thus pompously introduced is very disappointing. We have one sentence about the fabulous practice of the early Romans cutting up insolvent debtors and dividing them proportionately among their creditors, one about their being sold into slavery, and one referring to the amelioration introduced by the Christian Emperors, providing that if a debtor gave up all he had he should not be sold as a slave. From this point we leap clean over the intervening ages and come to the reign of Queen Victoria, and are offered a very imperfect sketch of the several variations of bankruptcy legislation which have occurred during the present reign-Lord Sherbrooke's history of this period is but a feeble reproduction of some of the facts given by Mr. Chamberlain when he introduced his new bankruptcy scheme to the House of Commons a few months since. The reign of the official assignees, which lasted until the new Act of 1869, is illustrated in Viscount Sherbrooke's paper by allusions to Blackstone, Lord Byron, a Greek poet, Peter Peebles, and Saturn, which do not help to explain anything, and the writer asserts the true but not new fact that the system "proved quite inadequate," and, for the purpose of his subsequent argument, the new but not true theory, that "creditors came to the conclusion that it was as well, or perhaps better, to be robbed first as last, and that their money might, as it was not to go into their pockets, just as well remain in the pockets of their debtors as in the pockets of the assignees." The system now prevailing of leaving to creditors themselves, as far as possible, the realisation of bankrupt estates, has also turned out "a signal and conspicuous failure." Lord Sherbrooke accounts for this failure by supposing that the creditor, knowing himself to have been done, feels lowered in his own estimation, and prefers to forget old losses and spend his time seeking after new gains rather than waste it over "fields nihbled to the roots." That explanation is, no doubt, true as far it goes, but an eminent economist discussing such an interesting subject in this formal manner might surely have prohed the causes of failure a little more deeply than Lord Sherbrooke has done.

This brings him to Mr. Chamherlain's Bill, which he at the outset prophesies is destined to "add yet one more to the tragical list of unsuccessful experiments which we have been chronicling." First he sees "no reason why the Board of Trade should replace the Chancellor." He thinks it "a bold and startling innovation to mix up a political office like the Board of Trade with the duties of court of law so as to make the conduct of judicial proceedings an element purely stormy arena of politics." Lord Sherbrooke seems to have studied his subject so superficially that he may have failed to guess that one reason for substituting the Board of Trade for the Chancellor may be that the latter has failed, while the former, at least, may succeed. Another reason for the substitution, and a not unimportant one, is that it is beginning to be felt that if the Board of Trade is to continue as a permanent institution in the State, it might as well concern itself somewhat with the subject which it nominally cares for. But Lord Sherbrooke himself subsequently supplies the crowning reason for giving the control of insolvency to a commercial and not to a strictly legal trihunal, when he maintains with quite unnecessary insistence that failure to pay debts is not to be regarded à priori as a crime to be punished. The Bankruptcy Department of the Board of Trade would have no more to do with the stormy arena of politics than has the Board of Inland Revenue, the Medical Department of the Privy Council, or the patent supervision of the Attorney-General.

Lord Sherbrooke does not trouble himself to criticise the details of Mr. Chamberlain's measure any further; he is too anxious to get into a little preaching on his own account. "If I am asked," he says, "what I would put in its place, that is, in place of the present Bankruptcy Laws, "I answer without hesitation-nothing." All that is necessary, he thinks, is to very considerably shorten the period allowed by the Statute of Limitations for the recovery of debts; that, we presume, is what he means when he says he would very considerably shorten the Statute of Limitations.  $_{\mathrm{He}}$ discovers only three grounds upon which the adoption of a bankruptcy law may be supported. Either to mitigate the eruelty of the common law, and that he finds is not now necessary; to punish this failure of contract in a manner different to the treatment of any other failure of contract; or to provide machinery for the equal division of the wreck of the property among the creditors. This last, of course, is exactly what a bankruptcy law is devised for, and it is at this point that Lord Sherbrooke either soars into some incomprehensible ether of previously-undiscovered wisdom, or, at any rate, wanders from what humanity generally has agreed to regard as common sense. He says, in effect, that when a creditor cannot get full satisfaction of his claim he has no right to any part of it. That if a debtor cannot pay his debts in full he need not trouble to pay any part of them. Lord Sherbrooke, of course, does not write this nonsense in so many words, hut what he does write amounts to that. These are his own words:—"Symmetry is worshipped at the expense

of substance, and the creditor is consoled for an unnecessarily meagre dividend by the information that all his fellows have been mulcted in exactly the same proportion. But, it may be said, natural equity requires that the wreck of the estate should be divided among the creditors. What is the basis of this natural equity? It is no part of the contract. It never, I apprehend, was known that a lender stipulated as to the payment which he was to receive in case of failure. The equality of the rule of three sum which adjusts the payment with reference to the loss is a pure figment of the law "-and much more of the same kind. He might, perhaps, be willing to accept the principle of an equal division of an insolvent estate among the creditors, but he professes to believe that the expense of such division is now, always has been, and always will be so great as to leave nothing but "the empty show of a symmetrical dividend, the substance of which the Bankruptcy Court has previously devoured." It is not at all wonderful that the enormous development of our commerce during the past 50 years should have necessitated two or three modifications of our bankruptcy laws. They have been partial failures so far, no doubt, but it is ridiculous to regard the problem of improving them as hopeless, and it is not refreshing to find a gentleman who has been rewarded with a peerage for his services as the chief financial controller of Great Britain advocating by illogical arguments and inaccurate and exaggerated statements a chaotic scramble after debts, or as an alternative an ahandonment of the whole system of credit.

#### THE RAILWAY RATES COMMITTEE.

#### CHEMICAL EVIDENCE.

N June 22 the Select Committee of the House of Commons inquiring into Railway Rates and Charges took evidence. Mr. Evelyn Ashley occupied the chair. The first witness ealled was

Mr. Spence (Berger, Spence & Co.), Manchester, who was asked by the Chairman whether he should not prefer to read his evidence, so as to get through it as rapidly as possible, with the understanding that any member of the Committee could at some future sitting cross-examine him. Witness said that he should prefer that course; and as there was a considerable amount of it he should read it

rapidly. Examined by Mr. Barclay: You are a proprietor of chemical works at Manchester?—Yes.

And you are interested largely in trade at Birmingham, Bradford, and Goole?—Yes.

You have the largest quantity of one chemical, viz., alum, in the world?—Yes.

And you make about 10,000 tons per annum of copperas, sulphate of ammonia, and other chemical products?-Yes.

And the views that you have upon this question of railway rates

you have embodied in a memorial which you will now proceed to read?—I shall do it under the different headings.

Well, give us the excessive rates for alum and copperas betwixt Manchester and Liverpool.—Yes. The rate for alum and copperas from Manchester to Liverpool (31½ miles) is 7s. 6d. per ton; but if proportioned to the rate from Manchester to London (186 miles for 18s. 4d.), it would be 3s. 1d.; if to the rate from Manchester to Bristol (178 miles for 15s.) it would be 2s. 8d.; if to the rate from Manchester to Glasgow ( $225\frac{1}{4}$  miles for 15s.) it would be 2s. 1d.

By Mr. Bolton: We may take it that, if the rate between Manchester and Liverpool were assimilated to other places, it might be reduced to as low as 2s. per ton?—Yes. Alum manufacturers in other towns get to Liverpool at a much lower rate per mile than the Mauchester maker. Manufacturers at Wakefield, 78 miles, and Tamworth, 80 miles distant, each pay 12s. 6d.; another at Rotherham, 80 miles distant, pays 9s. 2d., the proportionate rate in all three cases on the Manchester to Liverpool basis being 19s. 1d. A manufacturer at Goole, 105 miles distant, pays 12s. 1ch: the proportionate rate in this case would be 23s. 10d.

By Mr. Monk: Is that a special rate?—They have got a special ate. We have to plead for all our rates. We had to get that rate. We have to plead for all our rates. We had to get that special. It is a station-to-station rate. We do not include the deliveries in either ease. We deliver and convey our own.

By Mr. Bolton: All those rates that you are giving us are station-to-station rates?—Yes. This high rate for alum from Manshester to Liverpool has very seriously crippled my forcign trade. In consequence of it I am now very heavily handicapped in competing with French and Italian manufacturers in the Indian market.

Oppressive Rates also to Inland Manufacturing Towns.

The alum rates from Manchester to towns in the manufacturing districts are in most cases upon the same oppressive scale?—The charge to Burnley, Blackburn, Chorley, St. Helens, Runcorn, Huddersfield, and Darwen-all of them from 22 to 28 miles from Manchester-varies from 3d. to 3.8d. per ton per mile. Nothing could justify such excessive charges but the absurd contention that these journeys are relatively 300 to 400 per cent. more costly than long ones. But even this argument fails to explain the inequalities in the following rates :-

Rotherham is 80 miles to Liverpool, and pays 14d. per ton per mile. Tamworth is the same distance, and pays 1.9d. per ton per mile.

Glasgow is 225<sup>1</sup>/<sub>4</sub> miles from Mauchester, and pays ·8d. per ton per mile. It is 464 miles from Swansea, but the rate in this case is

still ·8d. per ton per mile.

Ramsbottom is 22 miles from Manchester, and pays 2.7d. per ton per mile; whereas York, which is 65 miles, pays 2.8d.; and Fleetwood, which is 50 miles, pays only 1.8d. Oswestry is 64 miles, and wood, which is 50 littles, pays only 1°8d. Oswestry is 64 littles, and pays 2°0d.; whereas Stockton, which is 105 miles, pays 2°3d.; Leicester, which is 89 miles, pays 1°9d.; and Hereford, which is 132 miles, pays 1°8d. Similarly Gloucester, which is 154 miles, pays 1°2d.; whereas Wokingham, which is 197 miles, and Reading, which is 210 miles, pay 1°6d. Norwich is 249 miles, aud pays '9d.; whereas Brechin, which is 315 miles, pays 1.1d.

By the Chairman: Does this material load and unload itself?-

All waggons are loaded and unloaded by me.

Chemical Raw Materials and Manufactured Products Treated Unfairly as Compared with other Goods.

Witness continued: The rates per mile are not only unequal as betwixt different towns and districts, but those upon minerals imported for chemical manufactures and the manufactured products themselves are extremely arbitrary and oppressive as compared with the rates upon other goods. The rate betwixt Garston or Liverpool and Manchester for manganese imported and for alum and copperas exported is 7s. 6d. per ton. The rate betwixt the same towns for lime, tirebricks, and tiles is 4s. 2d. per ton, and it costs the carrying companies precisely the same to carry these goods as to carry those for which they charge 7s. 6d.

#### The Higher Rates not Justified by any Additional Cost to Carriers.

Although I have sent scores of thousands of tons of alum and other goods to Liverpool I have never yet in my recollection made a single claim upon the Liverpool carriers for loss, and as a truck or boat leaded with my manufactures carries its maximum weight, and therefore involves not a fraction of cost in carrying over that of the lowest rated goods, I submit that I am being regularly robbed to the extent of 3s. 4d. per ton upon every ton of Liverpool goods I send away. Rates like the following must, I think, completely upset the pretension that an extra premium has to be included in the rate for the risk of loss when carrying expensive goods: — The station-to-station rate from Manchester to Glasgow, in 2-ton lots, for copperas, an article worth less than 30s. per ton, is 21s. 8d. per ton. The rate over the same distance for pig iron, an article worth 2l. 5s. per ton, is 12s. 1d.; and for raw sugar, worth 201. per ton, it is (after deducting 4s. for terminal expenses—this being a collected and delivered rate) 12s. 10d., and this, too, for either small or large quantities. I have made the most strennous efforts to get alum carried at the same rate as sugar, but without result. Having earefully gone over the whole of the claims paid me by all the railway companies of the kingdom for loss upon goods of all kinds manufactured by me during the last 33 years, I find that the 1-1,000th of a penny per ton per mile would more than recoup them for all they have been out of pocket.

#### Illegal Rates for Ammonia Water.

I have to complain also of the present prohibitory rates of the railway companies for the carriage of aumonia water. This article is produced in enormous quantities by the gasworks, and is manufactured into the well-known manure, sulphate of ammonia. Notwithstanding that it is merely the raw material of a manure, and is invariably carried in owner's trucks, the carriage rates fixed for it are always greatly in excess of 1d. per ton per mile. I have here a schedule of rates for the carriage of this article in the Birmingham, Bradford, and South Lancashire districts, showing the rates to be, as I consider, excessive.

By Mr. Monk: Do you complain that those charges are higher

than the company are entitled to charge?—We do not know what

the company are entitled to charge.

Have you applied for their rates ?-Yes, over and over again, and have been unable to obtain it, practically. We have first to go to them and get a specific rate for any place, and they put on what they think it will bear. There is no matter of justice or equity

New Products Brought out since Passage of the Companies'

It is notorious that a large number of important chemical and other products have sprung into existence since most of the Railway Acts were obtained, and the railway companies have in nearly every case ranked these, irrespectively of value, in the highest class; in fact, the incidents attending the obtaining of a rate for any kind of goods which are not already in the rate-books show the whole system of railway classification to be a gigantic farce.

#### Railway Mode of Procedure in Making a New Rate.

Upon receiving an application the railway company, instead of referring the matter to an expert in London, whom the companies might retain for the purpose, send out a scout to make some ludicrous inquiries as to the nature and character of the goods. The crass ignorance and credulity displayed by these men lead to a great deal of false statement, and, indeed, consignors are themselves not infrequently asked by the railway representative to lie, in order that his company may get a low rate, and thus secure the benefit of his suggestion.

A new product, which I brought out a few years ago at a very low price, I was recommended to call "alum waste," but refused to do so; and after persistent efforts, extending over two years, I

at last got it quoted at a special rate.

After enjoying this for a few months my trade rivals are now using my trade-mark to get an article of twice its cost carried at the same figure.

I need scarcely add that they have done it with perfect impunity, so far as the railway companies are concerned.

#### Loss of Business in Waiting for Rate Quotations.

There is another serious evil connected with the present system. Manufacturers are often unable to make a definite offer of price to a distant consumer until the existing rate, if any, has been ascertained. Very commonly it is found that no rate has been arranged; and as by universal railway practice no company can quote until the other interested companies have been consulted, weeks may elapse before the Railway Conference meets; and the eonsumer, unable to wait, goes to another locality for his goods.

#### Injury to Public by Mutual Jealousy of Railway Companies.

When the Conference does come together the representatives of the other companies often regard with the utmost jealousy a proposal which will bring business only to the initiating company, and they accordingly do their best to get the rate pitched high. So evident is this motive at times that I have in some cases been advised by a railway company's representative to apply for a rate simultaneously to another company.

#### Injury to Public from Sulden and Arbitrary Changes in Rates.

Another pernicious feature of the existing regime is the way in which the railway companies raise rates at times, not only without conferring with the interested parties, but without giving them eveu a moment's notice.

I am acquainted with agents who often purchase goods delivered on rails with so small a margin for commission that a change in the railway rate may more than sweep away their profit and land them in a loss.

#### No Remedy Possible while the Status Quo Exists.

Manufacturers and merchants are alike helpless in the midst of Manufacturers and merchants are anke help to the these arbitrary and inequitable arrangements. They have no relief from composition for it does not anywhere exist. Though I am from competition, for it does not anywhere exist. almost daily correspond ng all over the country for ra es, I do not know a single case where the railway monopoly is not complete, and where there are two railway companies offering competitive

#### Illustration Afforded by the Manchester to Liverpool Case.

In the case of the Manchester to Liverpool traffic, which to me is the most important of all, the Manchester manufacturer is all but powerless to move. If a waggon and horses road service were arranged between the two cities; or if a Bill were promoted in Parliament either for the construction of a horse trainway, or, better still, of a ship canal to Manchester, either of these proposals would meet with the most strenuous opposition of four powerful railway companies, and when either of the schemes was passed through Parliament, it would have to face a long struggle with the companies, who would reduce their rates in the hope of starving it into the combination. It is well known that by any of these three

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modes of transit goods could be carried from Manchester to Liverpool at very much less than the present rates. With a ship canal the saving would be immense, and that proposal has the thorough approval of able engineers.

#### If Railway Rates Are Fixed Manchester Ship Canal Becomes Possible.

If Parliament should prevent railway rates being lowered merely for the sake of destroying water competition, there is no doubt that the scheme of a Manchester ship canal will be undertaken at once, and I for one shall be harpy to take a large number of shares.

Mr. Bolton: This is scarcely evidence. These are matters of opinion.

By the Chairman: What are the other points? I am mcrely stating the facts on which these opinions are founded, and they are facts which undoubtedly concern my self.

We do not want to have anything beyond the bare statement.—I sball keep my deductions back as far as I can.

#### Various Reforms Requisite.

I may sum up my own views as to the existing régime by saying that I see only one way of putting the railway classification of goods and rates for carriage upon a basis which would be just and equitable, both to the public and the companies, viz:—

1. That the Railway Commissioners should require all the railway companies of the Kingdom to carry at a rate not exceeding 1d. per ton per mile for truck-loads of limestone, road metal, clay, sand, manure, and all other goods which are unstealable, unifianmable, imperishable, and otherwise undamageable, and which are at the same time heavy enough to give the truck its maximum load.

2. That all actual additional cost to the companies, whether arising from these or other risks, or from the carriage of light and bulky goods, or of small consignments, should (under the powers given to the Commissioners by the Act of 1873) be accurately ascertained by them by an inspection of the companies' cost books, and accounts of claims paid during the last ten years, and by any other available means; and that these extra risks and costs should be precisely determined by them for each class of goods, and added to the standard rafe.

3. That the Commissioners should accurately determine the cost of loug distances as compared with short, and should there be found to be a large saving per mile on long journeys, that they should fix a proportionate reduction for these trends they should reduce the same of the same

a proportionate reduction for these from the standard rate.

4. That the Commissioners should similarly determine the additional cost to the companies of carrying very short distances, and fix the uniform minimum mileage distance to be charged.

5. That they should also fix the amounts to be charged in all cases for terminal expenses, viz., sheeting, loading and unloading, collecting and delivering and depurpage.

collecting and delivering, and demurrage.

6. That they should have power to determine all other additions to or deductions from the standard rate, and generally to fix all rates, charges, and other traffic regulations which concern forwarders or receivers of goods, that the whole of such rates and regulations should be in force for one year, and he published

all rates, charges, and other traffic regulations which concern forwarders or receivers of goods, that the whole of such rates and regulations should be in force for one year, and be published annually in a single volume to be sold at cost price for the benefit of all concerued.

7. That any companies whose Acts do not limit them to 1d. per

A that any companies whose Acts do not limit them to 1d. per ton per mile for heavy crude materials, and who decline to be bound by this rate, should have the privilege of retaining their present charges, but that they should be permanently held to these, and not permitted to reduce them if any new company should construct a competitive line to carry at the standard rate.

8. That as it is contrary to the public interest to permit a powerful railway company to temporarily reduce its rates in order to extinguish the local competition of a steam-boat line or canal, the Board of Trade should be empowered heuceforth to prevent anything but universal and bonâ fide reductions in rates.

9. That in quoting or charging rates, the companies should in all cases be required to state the distance, and specify the terminal expenses.

10. That the loading of all goods should be supervised by the companies' servants, and that the companies should be responsible for the consequences of any shifting of the load.

for the consequences of any shifting of the load.

11. That the Railway Commissioners should now be made a permanent court, with power to adjudicate and make awards in all cases of grievance against the companies, including claims for past overcharges, and also upon all or other railway and canal quections.

12. That the Board of Trade should first receive and examine all complaints against the companies, and whenever after due investigation it should appear that the law is being violated by them, and that redress is refused, that the Board should commence proceedings against them before the Commissioners. If the Commissioner s should sustain the action of the Board, and their verdict should be appealed against, that the appeal should then lie direct to the House of Lords, and the Board, and not the aggrieved individual, should defend the case.

13. That the Board should not require that any complaint shall

be submitted through a solicitor, but that this should be left optional with the individual, as in the case of the ordinary Courts,

#### Unjust Method of Levying Canal Tolls.

The present mode of levying tolls upon the canals is of pressive and inequitable in the extreme, and I am informed by the secretary of one of the largest companies not under railway control that his people would be glad to be relieved from the requirements in their Act which compel their adherence to the present system.

At present toll is charged, not upon the boat, as it should be, but upon the actual number of tons carried, large or small, empty boats paying a merely nominal sum. The classification of goods also follows the absurd lines of the railway system, notwithstanding that the conditions of transit in the two cases are essentially different. In the case of railways, in addition to the element of rolling-stock, which is at its minimum with heavy goods, the railway company has to bear the risk of fire, theft, damage, perishability, loss of market through delay, &c.; but in the case of canals the owners of the navigation have only two points to consider—the wear and tear of the canal caused by the passing of a boat, and the quantity of water expended by its descent through the locks.

#### Just Method of Levying Canal Tolls.

As a boat passing down a single lock expends as much water as one going through 50, and as a light boat requires as much water as a loaded one, it is obvious that each boat should be charged for a lockful of water whether it is full or empty, and whether it haspassed through one lock or a hundred. As, moreover, the wear and tear of the navigation is as great with empty boats as with full. ones, it is equally clear that the true mode of levying dues is to ascertain the maximum number of tons of heavy goods which the largest boat can carry upon the canal and take through its locks, and to make this the unvarying standard of charge per mile for alk boats traversing the canal, whether light or loaded, and altogether irrespective of the kind of goods they carry. The practical opera-tion of this arrangement would be to economise water to the ntmost, to discourage light loads, and to put a pre-mium upon full ones; any increased revenue received from the light boats being available for a general reduction of the As, moreover, it would be only necessary under this system for the Canal Company to record the passage of each boat, the canal clerks and others now employed to check the declarations of cargo might be dispensed with altogether. This method of levving tolls would also greatly simplify the calculations of public earriers upon canals and thus facilitate trade. They would know at once what dues they would have to pay over a given distance, instead of asnow having to face a complication of tolls for different kinds of goods and often verying with such constants. goods and often varying with each canal over which they pass.

#### Evil Results of the Present System.

The injurious operation of the present canal classification of goods is seen in facts like the following:—

Upon the Bridgewater navigation from Manchester to Runcorn, a distauce of 30 miles, the dues upon limestone are 6d, per ton. Upon pyrites, raw and calcined, and minerals of similar low value, of which at Manchester I receive or send away about 150 tons per week, they average 2s, per ton, and this notwithstanding that a boat loaded with such materials carries its maximum weight, and therefore takes no more water per ton than limestone, nor involves an iota of increased cost in any way to the canal company. These facts apply equally to the case of alum, but the toll upon this product is 2s, 6d, per ton. Such tolls are, I take it, a clear violation of the spirit of the proviso in the Act of 1873 as to preferential arrangements. The Railway Commissioners have also ruled that increased charges cannot be sustained where there is no element of increased cost to the company. The 2s. unjustly imposed upon my export trade in alum is a very serious matter to me at the present moment, as alum is now selling at a lower price than it has ever previously reached.

#### Canal Companies as Carriers and Toll Collectors.

As the Bridgewater Company are not only toll collectors but also carriers on a very large scale betwixt Manchester and Liverpool, having a fleet of tugs and also extensive quays and warehouses of which they have the practical monopoly, I have no doubt the object of this excessive toll is to drive my Liverpool consignments into their boats. I consider it a very vicious principle that canal owners should also be canal carriers, as besides practically reserving to themselves the quays and warehouses, competitive carriers feel that in one way or another they are sure to be handicapped by the preferential arrangements made in its own favour by their more fortunately-situated rival. I think the same arguments apply to a large extent to railway ports and docks. Be this as it may, the result of the system in the case of the Bridgewater Canal is that the canal company (having, at the time of its formation eight or nine years ago, bought up the interests of the existing carriers) has practically now no competitors for the carriage of general traffic betwixt Manchester and Liverpool.

#### Evasion of the 16th Section of the Act of 1873.

The history of the Bridgewater Company illustrates how completely the spirit of section 16 of the Act of 1873, which makes it illegal for railway companies to take over or in any way control the traffic of a canal, may be evaded by the railway interest. The company was formed by railway men at the time of the passing of that Act, and with the direct object of overcoming the difficulty it presented; its capital was subscribed mainly by shareholders of the Midland and Manchester, Sheffield, and Lincolnshire, Railway Companies; its directors are all, or nearly all, of them railway men, and both in the management of its tolls and in its carrying department it has throughout exhibited all the worst features of the railway policy. In short, it has in every way realised the fcars expressed with regard to it by the Railway Companies Amalgamation Committee of 1872. So far from promoting water competition with the railways, its representative upon the so-called Railway Conference, or "ring" as I should prefer to designate it, which controls the whole of the rates betwixt Manchester and Liverpool, has in my experience shown himself to be

decidedly the most reactionary member of that body.

Not very long ago I brought out a new chemical product for the purification of sewage and other waste waters. The material was sold at a very low price, was heavy, unstealable, uninflammable, imperishable, and, being otherwise an article upon which no claims could possibly arise against the carriers, was every way entitled to be carried at a low rate. After great efforts I got the railway companies to agree that it should be carried at a reduced figure. Not long after, the agent of the Bridgewater company having called at my works, mention was made to him in the course of conversaat my works, mention was made to him in the course of conversa-tion of the new rate. He denied that any such rate had been arranged, but a written quotation of it by one of the com-panies having been shown him he said he would look into the unatter. The result was that I speedily received an iu-timation from one of the railway companies that the rate had been raised. The simple fact was that the Conference had reduced the rate without accomplising the Bridgewester represenhad reduced the rate without consulting the Bridgewater representative, and he subsequently protesting the rate was advanced. So completely has this company bound itself to the railway companies' arrangements and levelled itself up to their high rates, that it actually levies the railway companies' cartage charge upon goods in Liverpool in cases when they are taken by its boats direct from the ship and no cartage service is performed! The precise amount of blackmail imposed upon the Manchester consumer by this monopoly of carrying companies will be evident when I say that an experienced firm of carriers by water offered, if the dues were reduced to 6d. per ton, to carry me 1,000 tons of goods per week betwixt Manchester and Liverpool for 3s. 9d. per ton, which is exactly half the present charge. The spirit of sections 16 and 11 of the Act of 1873, prohibiting any railway company from controlling or interfering with the traffic of a canal company, and requiring them to afford all reasonable facilities for the forwarding of through traffic is, I consider, distinctly evaded by the railway companies in such cases as the following:—Many years ago I was enabled to forward alum by canal to Birmingham, but as three out of the four canals connecting Manchester and Birmingham are now in the hands of railway companies, through traffic is so much discouraged that I canals are now in the lands of railway companies, through traffic is so much discouraged that I cannot now find any public carriers who take goods through to Birmingham. My representative a few weeks ago, on asking the agent of the Manchester, Sheffield, and Lincolnshire Railway Company, who own the canal hearest to Manchester, what was the through rate of dues to Birmiugham, was informed that they could not quote them except for their own canal, as the other canal-owners would object to supply them with the information, and that my only course was to write to each of the other three companies! On writing these I found that two of them quoted, not a rate per ton, but per 2,400 lbs. The facts regarding the obstructive and oppressive policy of the Birmingham Canal navigations, controlled by the London and North-Western Company, are notorious in the Black Country, and I need give only one example of its charges for toll. From the Stourbridge Canal to Birmingham a distance of the rail. Canal to Birmingham, a distance of ten miles over this company's navigation, Stourbridge bricks pay 2s. 0½d. per ton, or four-tenths of a mile for 1d. The same goods from Birmingham to London, a distance of 150 miles over four other canals, pay 2s. 1½d. per ton, or nearly six miles for 1d. The following figures show how effectively the Great Western Company has strangled the traffic on three of the most important of the canals it has taken over:—Iu 1848 the gross traffic receipts on the Hereford and Gloucester Canal were 5,167l. In the three successive decades they had steadily dwindled down till they were 30 per cent. of this amount. During the same period the 13,273l. of receipts of the Stratford-on-Avon Canal had falleu off till only 23 per cent, was left, and within the same 30 years the 33,7411, of receipts on the Kennet and Avon Canal had all been shunted on to the rails except 4,4881., or 13 per

#### Policy of Railway Companies as to Canals.

The whole policy of the railway companies owning or leasing canals is to discourage their use in every practicable way in order to drive the traffic on to their metals. The results, in the crowding of

their lines with slow, heavy goods, thus impeding and endangering their passenger traffic, and glutting their depôts, are in themselves sufficiently serions. But the injury to the manufacturing and trading interests of the country in preventing them availing themselves to the numest of the advantages of inland water communication it would be difficult to over-estimate. In France, Holland, and America the importance of canals is fully recognised, and new ones are frequently being constructed. The canal makes its own station opposite every manufactory, thus involving no terminal ex-penses; and the simple fact that the railway companies have pur-chased or otherwise taken under their control 53\* of the canals of the United Kingdom, most of them so situated as to enable them effectually to control the through traffic, is a clear proof that they did not consider themselves able to compete upon equal terms with horse-towing upon the canals. In France and Belgium it is a well-known fact that canal competition has had the effect of materially reducing the railway carriage rates. When it is remembered that in most cases the limited water supply in the basins or watersheds traversed by the existing English canals would not suffice to supply a second canal, it is difficult to conceive what could have induced Parliament in so many instances to hand over to these gigantic monopolies this humble competitor of the railway, and thus destroy the only remaining guarantee the country possessed that its inland carriage rates would be kept within reasonable bounds. The same consideration, I think, applies to the question of railway harbours or ports. It is possible to construct an unlimited number of competitive railways. Nature has given us a very limited number of ports. The ultimate value of the canals to the uation when altered for steam navigation is seen at a glan e when it is remembered that experience has shown it to be cheaper to carry 2,000 miles by ocean steamer than 200 miles by rail. The cheapest rate I know of for alum is that from Manchester to Glasgow, viz., 15s. per ton for 225½ miles, or 1¼ mile for a penny, whereas I can get any quantity of the same kind of goods carried betwixt Liverpool and New York for 10s. per ton, or, taking the mean betwixt the outward and the home freights, for 16s. 10d. per ton, which on 3,016 miles is, respectively, 25 miles and 15 miles for a penny.

#### Violation of the 17th Section of the Act of 1873.

Railway companies have in the following instances in districts with which I am connected as a manufacturer violated the provision. in the Act of 1873 requiring them to keep their canals in thorough working conditiou.

The Bolton and Bury Caual, held by the Lancashire and Yorkshire Railway Company, and running parallel with that company's line through the manufacturing district lying between these towns and Manchester, has been allowed by this company to get into very bad condition. Besides being closed every night all the year round, when a casualty occurs nothing like the effort is made to keep the navigation open which would be put forth by the company if their own line were blocked; but matters are allowed to drift, and the repair is undertaken in the most leisurely fashiou. The canal is stopped at the present moment, and has been so for the last six or eight months, and were it not for the strenuous representations of manufacturers on its banks, I doubt very much whether the repairs now in progress would have been undertaken at all. The canal has been allowed by the company to be undermined at one point by a neighbouring colliery. They had powers to prevent this, but declined to avail themselves of them. A friend of mine, who is a partner in one of the largest chemical works in Lancashire, informs me that the present stoppage is costing his firm over 19l. per week in the additional carriage of oue of his materials alone, and that, in fact, a permanent stoppage of the canal would mean a final closing of his works. I also know two colliery companies whose aggregate losses by the frequent stoppages of this canal amount to thousands of pounds.

It is scarcely necessary to add that the great bulk of the trafficduring these stoppages is diverted from the canal to the rails of the Laucashire and Yorkshire Company.

I have myself long given this canal up as impracticable for my own purposes. Had I been able to rely upon it, I might have received from collieries ou its banks about 260 tons of coal and received from collieries ou its banks about 250 tons of coal and shale per week. The cauals and navigations under the control of the North-Eastern Railway Company have been allowed to go lamentably out of repair. I refer to such as the Derwent, the Market Weighton, Pocklington, Driffield, and Leven Canals. Both the condition of the locks and the want of dredging has rendered them almost impassable, and then at such limited drafts as would be unprofitable to work over even were the dues not maintained at I believe the very over, even were the dues not maintained at, I believe, the very maximum allowed by their Acts. In the case of the Market Weighton Canal it is a fact that they exactly doubled them almost immediately after taking possession. In the case of the Huddersfield Canal the London and North-Western Railway Company maintain the maximum rate of dues allowed by their Act. They charge 6d, per ton on all traffic except coal passing to Hudders-

<sup>\*</sup> This is the number given in the report of the Select Committee of 1872 on Railway Companies Amalgamation.

field—a distance of four miles—although they have an ample supply of water from the river Colne in addition to that from their reservoirs. They also charge wharfage for traflic even delivered over the banks of their canal.

#### Government to take over the Canals.

As the gloomy anticipations of the Committee of 1872 with regard to the pernicious influence of the railway companies over the canals have been fully borue out by the experience of the last nine years; as the railway companies have, both in letter and spirit, violated the provisions of the Act of 1873, requiring them to maintain in perfect condition the canals they possessed before the passage of that Act, and in no way to control or interfere with the traffic upon other canals, but to afford it every reasonable facility in their power; and as under the existing regime there is no prospect of the resumption of free and unfettered water-carriage competition in many of the most important districts of the country, it is clear to me that we have now reached the condition of things referred to by a great railway anthority, Sir Edward Watkin, when, in giving evidence before the Railway Companies Amalgamation Committee of 1872, he said:—"If\* it can be proved that the advantage of a navigation which Parliament has given to the public has been taken away I think it would be quite reasonable. on people coming to amalgamate, to say, 'You shall give up possession of this thing which is not properly used'"—I consider the time has now arrived for Parliament to say, once for all, to the railway companies, "'Hands off' the canals." As long as their clear motive is to destroy them no amount of legislation will prevent their carrying out their object while they have any power left to do so. England cannot, in the face of daily-increasing foreign competition, afford to see her internal waterways one after another closed against trailie; and as internal waterways one after another closed against traffic; and, as all other methods of preserving them have failed, I would recommend their being at once taken over by the Government on the basis of their present actual receipts from tolls, less working expenses, and less the cost of restoring them to the prime working condition prescribed by the Act of 1873. The net receipt, less these deductions, is, of course, the measure of the actual present value of the canals, and any new value which they might acquire from the uniform tolls and other regulations to be made by Government for the development of the traffic would be the creation and, consequently, the property of the State. If, at the same time, a fixed scale of mileage rates were adopted for railways without power to reduce, except uniformly all over the country, the canals would then be no longer harassed by the railway interest, and being all under one management, and opened everywhere for through traffic at the lowest paying rates, they would be an enormous boon to the manufacturing interests of the country. To fix a reasonable scale of railway rates, and another of canal tolls, and leave the canals still in the hands of the railway companies, would be merely half a remedy, as the railway companies, having only one profit on the canals as toll collectors against two on the rails as toll collectors and earriers, would be certain to find it more profitable to divert the traffic on to the latter, and thus obstacles of all kinds would again be thrown in the way of the canals. Oue very good reason why the Government should take over the eanals is that many districts of the country are now periodically flooded, to the serious loss of agriculturists and others. The navigation in not a few of these districts, as, for example, betwixt Birmingham and the Humber, suffers so seriously for want of water, that Birmingham has practically no water communication with the Humber ports. If the canals were in the hands of Government, it would, I presume, have powers to enable it to construct reservoirs at suitable points, which would both prevent the floods and keep the navigation liberally supplied. If, after the Government had obtained possession of the canals, the canal carriers should agree to offer it such an increased toll as would justify the outlay required to adapt them for steam navigation (which is, I think, a very probable event), its centralised administration would enable it to carry out the change with ease. At present, if any single canal company did anything in this direction its expenditure would be worse than thrown away. The short boats of other canals passing through its lengthened locks would waste an enormous amount of water, and the long boats of the invested resistance. the improved navigation could not cuter the short locks of the unimproved eanals.

#### Suitability of Government for Canal Administration.

Although I have naturally a strong repugnance to centralisation, I believe canal management would be a function for which Government officers are particularly adapted. It would not involve a tithe of the harassment now attending the working of the postal letters and telegraphs department.

The Chairman: The whole of your evidence will appear on the

The Chairman: The whole of your evidence will appear on the notes, and if any member of the Committee wants to cross-examine you upon it you will have to come back.

Witness: Yes; I hope that the matter will be taken up by the Government as I have suggested.

The witness then withdrew.

## Probincial Reports.

#### BRIGHTON.

ASSOCIATION OF PHARMACY.—A meeting of the Association was held on July 20, W. D. Savage, Esq., J. P., in the chair. On the motion of Mr. Leigh, seconded by Mr. Cornish, it was resolved that three guineas be sent towards the expenses of the forthcoming International Pharmaceutical Congress. The following members were deputed to represent the Association at the Congress, and also at the meeting of the Pharmaceutical Conference:—W. D. Savage, Esq., Thomas Billing, Esq., and Marshall Leigh.

#### BRISTOL.

FRAUD.—At the Bristol Assizes, on August 5, Thomas Jones, 34, fishing-tackle maker, was indicted for obtaining by false pretences two orders for the payment of 9l. 15s. and 9s., of and from Charles Townsend and others, with intent to cheat and defraud, on June 26; and also, with intent to defraud in incurring a certain debt and liability of 101. 4s. to Charles Townsend and others, did obtain eredit by means of false pretences and other fraud, in the month of July, 1881. Mr. Townsend is a member of the firm of Ferris, Townsend & Co., wholesale ehemists, Bristol, and on June 16 he received a letter from the prisoner, who described himself on the heading of the memorandum as a gun, rifle, and sporting-tackle maker, and dealer in shooting appliances and ammunition, earrying on business in Blackburn. In consequence of the statements contained in this and other letters with regard to the supply of goods to a medical gentleman living in Queensland, and on the faith that Jones was really what he described himself to be in his note-headings, the firm sent him the eheque and post-office order for the amounts named. It was proved that he was not carrying on a large business as he represented, and was lodging in one of the poorest parts of Blackburn. The jury, without hesitation, found Jones guilty. His Lordship said the course pursued by the prisoner was a system of swindling, and it was a case that called for severe punishment, for it could not be supposed for one moment that the mode of business earried on by Jones was an honest one. It was a bad case, and to put a stop to such a wretehed system of swindling he sentenced him to twelve months' imprisonment with hard labour.

#### CHESTERFIELD.

FIRE.—Early on August 9 a fire broke out in a warehouse belonging to Mr. Alfred Lowe, chemist, Chesterfield. The building, situated in Wheeldon Lane, and detached from the surrounding dwellings, has been used by Mr. Lowe as a warehouse for paraffin, benzoline, turpentine, and other ehemicals. The fire was mastered within two hours, but all the contents of the building were entirely destroyed, and the walls and the roof presented a shattered appearance. The goods had been insured to the extent of 300*l*, but the estimated damage is double that amount. The origin of the fire is unknown.

#### DEVONPORT.

SARAH TURNER, occupying a stall in Devonport Market, was summoned for selling adulterated butter. Dr. Oxland, the borough analyst, said the butter was adulterated with fat. For the defence Mr. Codd, M.P.S., was called to say he had also analysed the butter, and had found it unadulterated. Upon that the butter was sent to Somerset House, and the authorities there upheld the result of Mr. Codd's analysis. On August 8 the case was dismissed with costs against the town.

#### EDINBURGH.

SCHOOL OF MEDICINE AND PHARMACY.—The silver medal in the Pharmaceutieal Section of the above school has been awarded to Mr. David A. Sutherland, and certificates of merit to John C. Beeby and Thomas Lockwood.

<sup>\*</sup> Answer to question 4667 in Report of that Committee.

#### PRESTON.

Pharmaceutical Students' Society.—At a meeting of this Society, held on Friday evening, July 15, the results of the examinations in connection with the Science and Art Department, South Kensington, were read by the Vice-President, Mr. S. J. Elliott. In Inorganic Chemistry 12 of the students sat for examination, and the following seven passed: Advanced, 2nd class, A. S. Denham and S. J. Elliott; Elementary, 1st class, W. F. Livesey, F. J. Parker; 2nd class, F. W. Fell, J. O. Norris, A. Wilson. In Botany 10 sat for examination, and all passed, as follows: Advanced, 2nd class, S. J. Elliott; Elementary, 1st class, A. S. Denham, W. F. Livesey, F. J. Parker, W. A. Parkinson; 2nd class, F. W. Barlow, R. Eatough, T. Hayton, W. Mayor, A. Wilson. The classes in both subjects were under the tuition of Mr. T. H. Greenall. These results are considered very satisfactory, as the society has been only 15 months in existence.

#### STOCKTON.

TRADE-MARK RIGHTS AND AERATED-WATER BOTTLES.—On July 28, at the Stockton Borough Police Court, Mr. Chas Warne, manufacturer of aërated waters, was charged by Mr. R. R. Wren, also a manufacturer, with unlawfully infringing his trade-mark. Mr. Wren looked into the defendant's cart one day and there saw aërated water in bottles bearing his trade-mark—in fact, the bottles were his own. With a certain class of manufacturers in the town it had become common for one to collect and fill another's bottles indiscriminately, and this practice Mr. Wren and others wished to put down, as it involved them in great expense through having to purchase bottles which they would not otherwise require. The Bench said the case had been fully proved, but on this occasion they would merely inflict a nominal penalty in the hope that it would stop the practice complained of. They fined the defendant 1s. and 16s. 6d. costs.

#### SWANSEA.

COMPLIMENTARY DINNER.—On July 28 the Swansea pharmacists met at a complimentary dinner at the Cameron Arms Hotel to honour Messrs. Grose & Hughes for the excellent and successful manner in which they had carried out the arrangements of the British Pharmaceutical Conference, held at Swansea last year. Mr. J. T. Davies presided. Mr. Moses Jones proposed the toast of the evening, "The health of Messrs, Grose & Hughes." The success of the Conference was largely due to their labours, as well as the satisfactory condition of the finances of the local committee, which would compare favourably with those of the local committee of the British Association. Mr. Grose, in reply, said the liberal response to the appeal for funds was the chief cause of the success of the Conference. He would be glad to see a permanent convivial society started in Swansea. Mr. James Hughes remarked that to all Mr. Grose had said he would say ditto repeto. Mr. Roberts gave the toast of "Pharmacy," and Mr. Yorath that of "The Visitors." evening was enlivened with songs and recitations, and passed off very pleasantly,

## Poisoning Cases.

BENZOLINE.—A labourer, Edwin Parsons, attempted to commit suicide at Newnham by stabbing himself in the neck and afterwards drinking a quantity of benzoline.

Bromide of Sodium.—Dr. Frederick Reed, of Hartford, committed suicide at sea, on June 4, while on a voyage to the Azores in a sailing vessel, by jumping overboard in a fit of mental aberration, caused, it is believed, by the excessive quantity of bromide of sodium he had taken—no less than 11 ounces. Symptoms of insanity appeared two weeks before his tragic death, when he had been but a few days at sea, and a man was detailed to keep him under observation, whose vigilance he eluded by a trick of insance cunning. The case has aroused considerable in the practice of using bromide of sodium as a preventive of sea-sickness.—New York Herald.

CARBOLIC ACID.—An infant, named Alice Moore, has died in the University College Hospital from the effects of a dose of carbolic acid, administered in mistake for syrup of buckthorn, by a sister, aged 13.-A clerk, John Coward, aged 21, committed suicide at Manchester by swallowing 21 oz. of carbolic acid. He had bought the acid at a chemist's shop, stating that it was for a friend.—At Limerick, on August 1, Nathaniel Hone, aged 20, was poisoned by a dose of carbolic acid, administered by mistake for black draught. He went to Dr. Bourke's Medical Hall for a black draught. assistant measured 21 oz. from a bottle marked "Mist. Sennæ co." Immediately on swallowing it Hone felt a burning sensation, and it was discovered that the bottle had been filled with common carbolic acid by a porter. A few days before the porter had been told to take the bottle tothe store, and he had then taken upon himself to refill it, against the strict orders of his employers. An inquest was held, when the verdict returned was "Death from Accidental Poisoning." A rider recommended that in medical establishments poisons should be kept separately under lock The porter, Charles M'Carthy, was brought up and key. before the Limerick Petty Sessions, on August 18, charged with causing the death of Mr. Hone. The magistrate considered that there was no evidence against him, and he was discharged.

CAYENNE PEPPER.—Hannah Stone, a domestic servant, was sent to hard labour for a month by the Derbyshire magistrates, at Heanor, for killing two cats by administering cayenne pepper. Prisoner's master having dismissed from his service one of her fellow-servants, who was her sweetheart, she threatened to kill everything on the farm. The calves were under her care, and nine of them died from violent inflammation. Prisoner was watched, and was seen to force cayenne pepper down the throats of two cats, who died in frightful agony.

LAUDANUM.—John Ross, labourer, committed suicide at Cambuslang, on July 23, by drinking ninepennyworth of laudanum, purchased partly in Cambuslang and partly in Rutherglen.—James Willingham, blacksmith, was found unconscious at Brigg, with two empty laudanum bottles near him. He died soon after, and an inquest was held on July 27, at which a verdict was returned of "Suicide while temporarily insane."—Agnes Leslie, nurse, was charged at Edinburgh High Court of Justiciary, on July 18, with administering laudanum to Charles B. Henderson, infant son of W. H. Henderson, solicitor. After a lengthy trial the jury returned a verdict of "Not proven." The child did not die.

Lemonade.—A telegraphic dispatch from New York reports that a whole boatload of persons out for a picnic at Warrensburg partook of lemonade, and were poisoned by it; eight of them were dead, and a hundred others were in a critical condition. This is rather a startling addition to the records of mischief arising from the use of artificial beverages of the kind. The more common dangers of cheap artificial aërated drinks arise either from impurity of the water with which they are made, or from contamination with lead or other mineral poisons, or from the habitual use of drinks containing mineral substances of one sort or another, added with a view to their alleged tonic action. It is stated that, in this case, the sufferers were poisoned with the acid used in the manufacture of the lemonade.—British Medical Journal. [It is hardly necessary to point out that this report, in its present state, is quite incredible.]

POTASSIUM CYANIDE.—An inquest was held on August 4 at Holborn Town Hall, London, respecting the death of Fentham Hodges, aged 28, of 2 Old Square, Lincoln's Inn Fields. The deceased, a barrister, was found lying on the floor, completely dressed, and quite dead, whilst about the room were some bottles and a box of chemicals. Dr. W. Blyth, medical officer of health for Marylebone, deposed that he had made a post-mortem examination, and found that the stomach contained cyanide of potassium sufficient to cause death, and he had no doubt that death was caused by it. The jury, after some consideration, returned a verdict that the deceased died from the effects of cyanide of potassium arising from misadventure whilst experimenting.

SALTS OF LEMON.—A Plymouth laundress was charged at the Exeter Assizes with murdering her child by administering to it a dose of salts of lemon. The defence was that the child was suffering from thrush, and defendant administered the poison believing that it was borax. The grand jury threw out the Bill.



ENO'S ADVERTISEMENTS.

MR. CHANNELL brought this matter before the Queen's Division of the High Court of Justice on August 5. Mr. Eno employed Messrs. Gilbert & Rivington, Oriental printers, to get his advertisement translated into sixteen languages. The translation came to 521. 6s., and 200,000 copies were printed and delivered for a total cost of 600l. When the copies of the advertisement were becoming exbausted Mr. Eno gave an order to another firm to print some more copies, and thereupon Messrs. Gilbert & Rivington registered in their own names a copyright in the translation. The present application was for a rule calling upon them to show cause why this entry in the copyright-book should not be modified or varied, and it was contended that if there was any copyright at all it must be either in Mr. Eno, who paid for the translation, or in the gentleman who made the translation, and that it could not be in Messrs Gilbert & Rivington, who were mere intermediaries in the matter. Rule granted.

THE SALE OF LIME-WATER.—RICHARDS v. MANFULL. (Prosecution under the Sale of Food and Drugs Act.)

AT the Guildhall, Nottingham, on August 3, Horatio John Manfull, of 88 Arkwright Street, Nottingham, chemist, was charged before Mr. Blain (in the chair) and Mr. F. W. Parsons that he did, on June 29 last, at his place of business, in Arkwright Street, Nottingham, unlawfully sell to one William Richards, of the Municipal Offices in the said town, chief inspector of nuisances, and to his prejudice, a certain drug, to wit, one pint of lime-water, which was not of the nature, substance, and quality of the drug or article demanded by the said William Richards.

Mr. S. G. Johnson, town clerk, prosecuted on behalf of the Corporation, and Mr. Henry Glaisyer, solicitor, of Birming-

ham, represented the defendant.

In opening the case Mr. Johnson said there were three summonses returnable on that day against three chemists in the town for selling lime-water contrary to the 6th section of the Sale of Food and Drugs Act. He understood that two of them were not represented by professional men, but that the third was represented by his friend Mr. Glaisyer, therefore, with the permission of the Bench, he would take Mr. Manfull's case first. He might tell the Bench that they had recently had a great deal of infantile diarrhea in the town, and the attention of Mr. Seaton, the medical officer of health, had been called to the matter. In that town there were, as the Bench would be aware, a number of women who went out to work during the day, leaving their children at home in the care of others. Lime-water was frequently used mixed with milk for dietetic purposes for such children, and it was of course of the utmost importance that the lime-water so used, and also that the lime-water ordered by medical men in prescriptious, should be of the best quality and of full strength, otherwise the health of the district must suffer, as the preparation in question was continually prescribed for diarrhea, more particularly for children. Mr. Manfull being asked for a pint of lime-water, he was bound to supply a preparation known to the

medical profession by that name, that of the Pharmacopæia, that being the only preparation a person going to a chemist's shop and asking for lime-water would expect to receive. Mr. Manfull had not been dealt with exceptionally in this matter. Twelve chemist's shops were visited by the inspector on the day the purchase of the drug in question was made from the defendant, and twelve samples of lime-water were taken, nine of which were of the required strength. The required strength, as he understood it, was distilled water thoroughly saturated with lime. Having read the 6th section of the Act, Mr. Johnson proceeded to say that it must stand to common sense that if a person went into a chemist's shop and asked for a drug he expected to get a drug of the nature, substance, and quality of the article demanded, and if that person asked for limewater he would expect to get lime water of the full strength, namely, distilled water saturated with lime. If he did not get a preparation of that strength he did not get lime water, but simply lime and water. He did not get the article he demanded, and he was prejudiced accordingly. In this particular case the public analyst had certified that the drug sold by the defendant was not lime-water, but lime and water, and did not contain more than about half the lime it should contain if of full strength, so that a medical man would be misled to the extent of half the lime in a prescription dispensed with the lime water sold by the de-He should contend this point very strongly, because if it was contended for the defence that there was lime in the water sold, and that, consequently, the preparation sold was lime-water, he should call witnesses to show that there was a preparation known among chemists by that name, for which there was a well-recognised form of manufacture, which would produce a preparation of known strength, and that when a person asked for lime-water that preparation and no other should be sold, and that a person had a perfect right to expect to get that article, and was prejudiced if he did not get it of full strength. matter was one of considerable public importance, and one which concerned the health of the whole district. He should call the medical officer of health, he should put in the analyst's certificate, and he should call the sanitary inspector and others.

Mr. Glaisyer said that, with regard to the case in which he was instructed, he did not think there would be any necessity for his friend to go into the particulars of the case as sketched out, as he was prepared to acknowledge that the lime-water sold by the defendant did not contain the full proportion of lime, and he should only ask permission to address the Bench and plead extenuating circumstances.

Mr. Johnson said under the circumstances named by his friend he did not think it necessary to go more fully into the merits of the case; he did not at all wish to make out a

special case against Mr. Manfull.

Mr. Glaisyer said the defendant, Mr. Manfull, had been in business in the town for eleven years, during which time he had carried on business in Arkwright Street, and that no charge of a similar nature to that they were now considering had ever been brought against him before with regard to the sale of any of his drugs. The inspector went to his shop and asked for lime-water, and he was supplied, as his friend opposite had told them, with an article which contained lime, but not lime in sufficient quantity to be that known to the medical profession and technically called lime-water. Now lime-water was made according to certain directions in the British Pharmacopæia, which ordered a certain quantity of lime to be put into a stoppered bottle contain. ing a certain quantity of distilled water, and the ingredients to be shaken well for two or three minutes. "After 12 hours the excess of lime will have subsided, and the clear solution may be drawn off with a syphon as it is required for use, or transferred to a green glass bottle furnished with a well-ground stopper." He was told that each of these directions, the stoppered bottle, the shaking, the 12 hours' standing, the green glass bottle with the well-ground stopper, were all essential to the production of the proper article. Exposure to the air when shaken in a closed bottle would cause the lime which was in solution to be thrown down as a precipitate in the form of carbonate of lime, which would fall to the bottom of the vessel; and thus, of course, lessen the quantity of lime in the solution; therefore, even supposing the water were in the first instance saturated with

lime, after exposure to the air a certain quantity of lime would be thrown out in the form of carbonate of lime. This would necessarily lessen the quantity of lime contained in solution in the fluid. The shaking which the British Pharmacopoeia directed was necessary in order to extend or separate the particles of slaked lime, and thus allow free access of the water to every particle, in order that it might take up the required quantity of lime to form a solution of the proper strength. The 12 hours' standing was also necessary for the same purpose. It was not a case where the law had been wilfully infringed or any attempt made to fraudulently adulterate a drug for the sake of gain, the total price of this article being only a few pence, nor was it a case in which a tradesman had wilfully and fraudulently sold an inferior preparation for the sake of greater profit; it was simply an instance where sufficient care had not been exercised in attending to the uttermost letter of directions contained in the British Pharmacopæia. With these remarks he would leave the matter in the hands of the Bench, submitting that, under the circumstances, a nominal fine would meet the justice of the case.

Mr. Parsons said that although to the chemist the quantity of lime contained in lime-water might not make a pennyworth of difference, as regards the health of a large and populous town containing upwards of 200,000 inhabi-

tants it was a most serious matter.

Mr. Blain said: The Bench think this a very important question. The public must be protected, and, as this is the first offence, Mr. Manfull will have to pay 5l.

GEORGE POWELL, chemist, St. Ann's Well Road, was charged with a similar offence. The Town Clerk said this was a case which was on all fours with the last. The defendant pleaded guilty, and was also fined 5l.

MR. J. T. RAYSON, chemist, 273 Great Alfred Strect, was also summoned for selling lime-water which was not of sufficient strength. Defendant said he had only had the shop a month, and his predecessor guaranteed that the lime-water was right. It was really no neglect on his part. Dr. Seaton, in answer to the Bench, said the lime-water ought to have been made since then, but if it had been put in a stoppered bottle there was no reason why it should not keep good for an even longer time. Defendant was also ordered to pay a fine of 51.

#### MALT EXTRACT IN CHANCERY.—HOFF v. HOFF.

ON August 4 Mr. Ince, Q.C., moved before the Master of the Rolls, in the case of Hoff v. Hoff, the plaintiff being Johann Hoff and the defendant Marcus Hoff, to restrain the defendant from issuing certain circulars and endeavouring to obtain the custom of the plaintiff (on which he did not ask for an order at present), and also from issuing circulars and advertisements imputing that the malt extract made and sold by the plaintiff was not the genuine Johann Hoff's malt extract, or was spurious. Mr. Chitty, Q.C., who appeared for the defendant, said the parties were brothers, the defendant being the elder. Mr. Ince said some years ago the two brothers—Johann and Marcus—made some discovery with reference to a preparation of malt, which was supposed to be very beneficial to health. The Master of the Rolls said there was a well-known preparation of malt with a little hops in it, which he had heard highly spoken of. Mr. Ince said this was supposed to be even more beneficial to health. The Master of the Rolls said he did not think he should like it without hops. Was this extract a liquid? Mr. Owen said it was a kind of German beer, with some herbs in it, which was the secret. The Master of the Rolls asked if there were hops in the preparation as well as malt. Mr. Owen said he had not been able to discover what the secret was, but his client nodded his head, by which he presumed he meant that it did contain hops. The advertisements and circulars issued by both parties were handed to his Lordship, who, after examining them, said it seemed to be six of one and half-a-dozen of the other. He should make no order at present, and the motion would stand over until the next sittings. He would suggest to the counsel for the plaintiff, before it came on again, to consider the old rule, that he who came into Equity must come with clean hands. It would be far better if each party sold his own goods upon their own merits, without abusing the goods of the other.

#### BANKRUPTCIES AND LIQUIDATIONS.

EVANS & CANT, Aniline Dye Manufacturers and Patentees, Stratford.

THE debtors, trading at the Eastern Chemical Works, under the firm of "Evans, Cant & Co.," have petitioned for the liquidation of their affairs, returning their liabilities at about 6,700%, the following appearing as creditors, secured and unsecured:—

Alderton & Co., 96 Park Street, W.				12 0 10	
Bowerbank & Sons, Sun Street				15 11 10	
Beckles, S. H., & Co., Fish Street Hill				186 2 8	
Chaston, H. R., Upper Tulse Hill				4,021 19 5	
	• •	• •	• •	-,	
Casthelaz, J., Crumpsall	• •	• •		245 9 11	
Clayton Aniline Company (Limited)	• •			310 10 1	
Dawson Brothers, Dan, Huddersfield				98 12 7	
Fraser & Fraser, Bromley-by-Bow				16 1 6	
Gray's Chalk Quarries Company (Limi	ted)			22 3 8	
Garrod & Co., Arthur Street West				507 2 5	
	* *			25 12 0	
Manchester Aniline Manufacturing Con	шрапу	• •	• •		
Monuet, P., & Co., Geneva				$96 \ 5 \ 1$	
Moore, G., & Sons, Ratcliff				27 17 4	
Meyer, J., 3 Market Buildings, E.C.	• •			85 <b>0</b> 0	
Neustadt, M., & Co., Mincing Lane				103 2 6	
Poupard, G. G., Romford Road, E.				21 6 0	
	• •	• •	• •		
Smith, T., & Co., Old Kent Road				16 1 0	
Spencer, E., & Co., 87A Fenchurch Str	eet			17 16 8	
Temple & Co., High Street, Stratford				14 19 5	
Wilson, T. A., East Acton Villas, Acto	n			50 2 6	
Zumbeck, A., & Co., Mincing Lane			••	£34 13 7	
Zumbeck, A., & Co., ainteng Lane	• •	••	• •	COX 10	

The first meeting is to be held on September 1, at 2 o'clock, at Masons' Hall Tavern, Masons' Avenue, E.C.

#### Separate Estate of Mr. Evans.

				-	٠.		
Ashby, R. W., Cobham				850	0	0	
Hughes, D. W., Wymondham	٠.			300	0	0	
Haywood, J., & Co., Islington Bazaar,	N.			20	3	2	
Ponsford, J. B., 5 Canuon Street				49	0	0	
Waghorn, A., IA Mount Street, W.	••			300	0	0	
Separate E tate of 1	Mr.	Cant.					
Peckles, S. H., 43 Fish Street Hill				25	15	0	
Palmer, A. W., Lee	• •	••	••	11	17	0	

The case was brought before Mr. Registrar Murray on the 12th inst. Mr. F. C. Willis applied, on behalf of unsecured creditors for about 1,600*l*., for the appointment of Mr. C. Waters, accountant, Coleman Street, as receiver and manager of the estate. He said he was instructed that the debts set out in the petition included one for 4,000*l*., which was secured. The business was an extensive one, and ought to be carried on. The debtors consented to the application, and his Honour made the desired appointment.

# Scientific Notes:

On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.

#### A NEW METHOD OF DETERMINING ARSENIC.

LIEBIG'S Annalen der Chemie, June 23, 1881, contains an important paper by Emil Fischer, "On a New, Easy, and Accurate Method of Determining Arsenic in its Alloys and Mixtures with other Metals." The method consists essentially in distilling with hydrochloric acid and an excess of ferrous chloride, and determining the distillate with a titrated solution of iodine.

The ferrous chloride acts at the same time as a powerful reducing agent, and prevents the distillation of the chlorides of the other metals.

The alloy or mixture requires to be brought into solution before the distillation with ferrous chloride is commenced, and in the case of simple alloys this is effected by treating them with hydrochloric acid and potassium chlorate, whereas the sulphides of arsenic, antimony, and tin are oxidised by chlorine in alkaline solution, and the oxides formed decomposed by gently heating them with strong hydrochloric acid. If nitric acid has been used as solvent, this must be entirely removed by evaporating with sulphuric acid.

The solution of the alloy or mixture of metals having been effected, this is mixed in the distilling vessel with 10 to

20 c.c. of a cold saturated solution of ferrous chloride, and

150 c.c. of hydrochloric acid of 20 per cent.

The distillation is carried out in a bolt-head of about 600 c.c. capacity placed at an angle of 45°, and connected by a glass tube with a Liebig's condensor. (When caoutchouc is used for the connections this must be previously boiled in dilute caustic soda to remove the sulphur, so as to prevent the formation of arsenic sulphide) The heat should be so regulated that about 2 to 3 c.c. distil over per minute. The distillate is best collected in a large Erlenmeyer's receiver of the like capacity. When the contents of the bolt-head have distilled down to 30-35 c.c. the distillation must be interrupted, and according as it is necessary to distil further or not the distillation is either entirely stopped, or, after allowing the bolt-head to cool a little, 100 c.c. of hydrochloric acid of the strength above mentioned is added, and the distillation begun anew.

The distillate is neutralised in the Erienmeyer's receiver—which should not be more than half full—with neutral potassium carbonate. To prevent loss by effervescence the mouth of the receiver is covered with a perforated watchglass, and the solution of potassium carbonate run in in small quantities at a time through the perforation. The solution is then mixed with some starch paste, and titrated

with iodine in the usual way.

The author states that when the substance to be determined has once been brought into solution, the whole operation admits of being carried out in four hours. The author finds the method very exact, and considers that it is likely to supersede all other methods of determining arsenic.

#### CINCHAMIDINE.\*

O. HESSE has found in the aqueous mother liquor, from the purification of homocinchonidine sulphate, a new alkaloid, to which he has given the name of cinchamidine.

The alkaloids contained in the above mother liquor are precipitated with ammonia and then repeatedly re-crystallised from boiling alcohol, whereupon they are dissolved in an excess of hydrochloric acid and fractionally precipitated with neutral sodium tartrate. The final precipitates consist essentially of cinchamidine mixed with another basic substance. To remove the latter the very nearly pure cinchamidine is dissolved in dilute sulphuric acid and a few drops of a solution of potassium permanganate added, which destroys the basic impurity, but does not effect the cinchamidine.

Thus prepared, cinchamidine forms colourless laminæ and flat needles, while from a strong alcoholic solution it crystallises in thick prisms. Cinchamidine is difficultly soluble in ether, tolerably soluble in chloroform, and insoluble in water. Its alcoholic solution has a basic reaction, and neutralises even the mineral acids. Dilute acid solutions of cinchamidine exhibit no fluorescence, and undergo no change in colour when treated with chlorine and ammonia. Cinchamidine crystallises without water of crystallisation. It melts at 230° C. Its chemical composition may be represented by the formula  $\rm C_{20}H_{2e}N_{2}O_{2}$ . With acids cinchamidine forms beautifully crystallised salts. Cinchamidine, like cinchonidine and homocinchonidine, is a biacid base.

#### A SIMPLE METHOD OF TESTING BUTTER FOR WATER. †

AMONG other practices had recourse to for fraudulently increasing the weight of butter, the commonest and most useful to the adulterator, because not easily estimated by the purchaser, is that of incorporating it with large quantities of water.

Ewin Johanson, the author of this paper, takes the average amount of water in unsophisticated butter to be 10 to 12 per cent., and considers all above that as a fraudulent excess, and gives the following easy and quick method of testing the

matter:-

Five g. of butter are brought into a burette graduated into  $\frac{1}{10}$  c.c., and treated therein with 25 to 30 c.c. of petroleum, ether, or benzine, the whole put in a warm place and often shaken, so as to dissolve the fats, and then left to settle. The solvent is then poured off from the aqueous

stratum, and this latter again treated with the same quantity of petroleum, other, or benzine as before. When the mixture has again settled the number of c.c. of water are read off, and the percentage calculated.

#### PURE CARBOLIC ACID.

M. Alexejeff prepares pure carbolic acid by mixing the commercial quality with 5 per cent. of water, melting it, and setting the liquid aside. The first crop of crystals is drained, treated in the same manner three or four times, and the product is then distilled.

SOLUBILITY OF VARIOUS CHEMICALS IN DILUTED SPIRIT.

THE following list of solubilities is given in the Proceedings of the Californian Pharmaceutical Society:—

One gramme requires for solution at 15.5° C. the adjoining quantities of spirit, sp. gr. .941.

	c.c.		C C.
Benzoic acid	20 00	Potassium carbonate	1.00
Citric acid	1.00	,, chlorate	88.60
Oxalie acid	8.00	" citrate	1.00
Tartarie aeid	1.25	nitroto	24.00
Ammonium bromide	10.00	" and adding t	ar-
		,,	00.00
" carbonate	10.00		
,, chloride	6.00	" sulphate	700 00
Argentic nitrate	2.50	" bromide	4.50
Quinine sulphate	150.00	" ferroeyanide	570.00
Cinchonine sulphate	20.00	" iodide	1.60
Codeine	4.40	sulphide	460.00
Cupric sulphate	518.00	Saecharum laetis	53.00
Ferric sulphate	000.00	Sodium acetate	3.00
	1,790.00	h i a a who make	00.00
Lithium carbonate	0 = 00		102.00
", citrate	25.00	,, borate	
Magnesium sulphate	47.33	" hypophosphite	580
Mercuric chloride	20 00	,, hyposulphite	3.00
Morphia acetate	50.00	phosphate	298.00
" hydroehlorate	26.00	, salieylate	19.60
// null-baka	40.00	,, sulphate	81.20
	0.00	oulpha aawhalata	18.00
Plumbic accetate	0.50	Strychnine sulphate	00.00
Potassium aeetate	0.50		10.00
" hicarbonate	22 00	Zinc sulphate	48 00

#### ON THE PREPARATION OF TINCTURE OF RHUBARB.

CLARKE states that the marc of tinctura rhei contains a large proportion of chrysophanic acid. At the first glance this seems to indicate that the menstruum used for the extraction of the drug is not strong enough in alcohol. The fact that the fluid extract, made with more alcohol, does not precipitate confirms the idea. An increased alcoholic strength would prevent the precipitate, but it would interfere with the therapeutic action of the tincture. And the origin of the deposit is not the alcoholic weakness of the menstruum, but the presence of a substance or substances in the tincture which cause a precipitate; for a tincture made with strong alcohol, and then diluted, remains unchanged.

The presence of starch and pectic acid in the rhubarb cause, and suggest a means of preventing, the precipitate. Both are unstable and apt to originate chemical change, and both are sure to be present, to a greater or less extent, in a tincture prepared with diluted alcohol. In one made with strong alcohol they are absent. This, then, is the remedy. Prepare the tincture with 92 per cent. alcohol, and afterwards dilute it to the required strength. The resins precipitated by the addition of water do not affect the medicinal effect of the tincture, and can easily be removed by filtration.—Review of Medicine and Pharmacy.

#### AMMONIA IN SODIUM BICARBONATE.

HAGER remarks, in the *Pharmaceutische Centralhalle*, that the sodium bicarbonate made by the ammonia process, which is becoming so common, is almost certain to contain ammonium salts as impurities. If only traces of ammonia are present the sample may be used for pharmaceutical purposes, but when the quantity is considerable the sample should be rejected. To determine this point he suggests the following process:—The sodium bicarbonate is spread on a glass plate in a layer, 5 cm. thick and 2 to 3 cm. square. A glass rod or stopper, moistened with strong acetic or dilute hydrochloric acid, is held over it, and if a cloud is formed easily visible against a dark back-ground, ammonia is present in quantities large enough to make the sample unfit for pharmaceutical use.

<sup>\*</sup> Berichte der deutschen Chemischen Gesellschaft, July 25, 1881.
† Pharmaceutische Zeitung, July 13, 1881.

#### DISPENSING SOFT EXTRACTS.

OR. H. McD. GAMBLE, of Columbia, Mo., suggests that the preservation and dispensing of soft extracts would be greatly acilitated by keeping them in compressible metal tubes, such as are used for artists' colours and for dispensing ointments.—Coll. and Clin. Record, in New Remedies.

#### FABÆ SANCTI IGNATII.

OR. THOREL, in the *Union Médicale*, states that M. Pierre, lirector of the Botanical Gardens of Saigon, has proved that he tree which produces St. Ignatius' beans belongs to the renus Hydnocarpus, not at all related to the genus Strychnos. The *Hydnocarpus inebrians*, which furnishes the beans, is well known in the colony of Cochin China. The genus *Ignatia*, to which they are still assigned in most books, was reated from the flowers of one plant, the fruits of another, and the seeds of a third.

#### THE NEW CINCHONA BARK FIELD.

OR. CHARLES A. ROBBINS, of the firm of McKesson & Robbins, has visited the newly-discovered bark fields in the State of Santander, U.S. Columbia, and has supplied the Oil Paint and Drug Reporter with some information con-

erning them.

The discovery was purely accidental. The bark, which is alled Cuprea, looks as if it were valueless, and is produced by trees growing at a much lower altitude than any of the nown marketable kinds. Small lots were, however, sent to Europe and the United States, and the report on its quality was so favourable that there has been almost a "rush" to but it on the market. It is cut on lands belonging to private parties, who never suspected the treasures within heir reach. It is on the lower mountain ranges adjoining Succarramanga that this bark has been found, the good rees not generally growing below 2,000 or above 3,500 feet over sea-level. In this respect it approaches nearly all the rarieties of the Succirubra family, and differs widely from the greater part of the other South American barks.

Its appearance when dried, its weight and hardness, make t different in external qualities from all other barks of the Cinchona family. The bark that was first shipped to market was cut for the most part from the higher altitudes—2,000 to 3,000 feet—and was in most cases of fine quality, and sold for a high figure. When this excitement once airly commenced prospectings were made and cuttings were begun without definite knowledge of the value of the bark, and the report of the large amount of bark still to be shipped from Buccarramanga has been one of the great causes of the decline in quinine. Persons well familiar with the country, however, know that a large portion of the bark waiting shipment is absolutely worthless for quinine purposes; part is of low grade, and that the greater part will not give on analysis half as much of quinine as the cupreas which were among the first shipments to London, and which sold at 3s. 6d. to 3s. 8d. in that market.

sold at 3s. 6d. to 3s. 8d. in that market.

The best informed merchants in Buccarramanga consider a matter of very few months before the bark will all be take longer to move the bark, as facilities have never been adequate in the way of mules and canoes, since the beginning of the cuttings and the competition by shippers has

driven the freights to an enormous price.

WATERPROOF	BRANDING	INK
WAILINGOI	DRANDING	AA

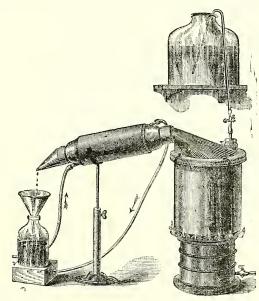
							0	unces
Shellac		• •	• •	••	••	• •	• •	2
Borax	• •	• •	• •	• •	••	••		2
Water		• •	• •	• •	• •		• •	25
Gum ara				••	• •	• •	• •	2
Lampble	ack, s	ufficier	ıt.					

Boil the borax and shellac in water till they are dissolved, and withdraw from the fire. When the solution has become cold, complete 25 oz with water, and add lampb'ack enough to bring the preparation to a suitable consistence. When it is to be used with a stencil it must be made thicker than when it is to be applied with a marking brush. The above gives a black ink. For red ink, substitute Venetian red for lampblack; for blue, ultramarine; and for green, a mixture of ultramarine and chrome yellow.



#### THE "REMINGTON" PHARMACEUTICAL STILL.

This still was designed by Professor J. P. Remington, of the Philadelphia College of Pharmacy, and has been improved in several points since it was first introduced to the profession in 1878. The still body holds over three gallons, and by means of a siphon supply tube any quantity of fluid can be introduced while distillation is going on, obviating the need of a large still. The still head lifts off entirely, leaving an open cylinder, which can be readily cleaned. The head is clamped on with thumb-screws, a couple of yards of string being all that is needed to make an air-tight joint.



The con enser is made like a locomotive boiler; it consists of a cylinder filled with cold water, through which seven straight tubes run, thus giving a large condensing surface. The still can be used as a water-bath by setting it in a kettle partly full of water, or it can be itself converted into a water-bath by putting an evaporating basin in place of the head, while evaporation can be retarded by placing the head over the evaporating basin. The still is made in two forms, one of tinned copper, the other nickel-plated. It is introduced into this country by Messrs. Burroughs, Wellcome & Co.

#### CHEAP OXYGEN.

The figure below is copied from the Scientific American, and shows the process of making oxygen gas from bleaching-powder, at a much more economical rate than from chlorate of potassium. Fresh bleaching-powder contains on an average about 26 per cent. of calcium hypochlorite. This substance, when heated to the boiling-point of water, splits up into calcium chloride and calcium chlorate. If the heat is increased to low redness the chlorate is decomposed into calcium chloride and oxygen. During the elevation of temperature some hypochlorous acid is apt to pass off; but if the apparatus is so arranged that the gas is forced to pass over or through a small quantity of heated lime it is arrested, decomposed, and the oxygen liberated—oxygen and steam only passing over. In a series of late experiments

contain

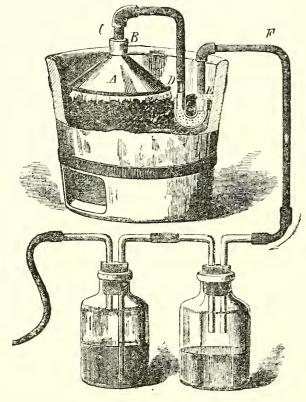
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the yield in oxygen per pound of common commercial bleaching powder averaged 4 gallons, making the cost of materials for oxygen from this source about 3½c. per cubic foot, as compared with 9e. where potassium chlorate is used. The gas after passing through the wash-bottles is perfectly odourless and nearly pure. Where the gas is required in small quantities, a few cubic feet at a time, the following apparatus answers very well:-The retort, A, is made of common sheet iron, doubly lapped and riveted. The short neck, B, is slightly flaring, so as to admit of the luting in of a piece of inch steam-pipe. This pipe, c, is connected by a screw cap or elbow with a longer piece of similar pipe bent somewhat, and extending downward 2 or 3 inches below the bottom of the retort, where it is joined by a U cap at its lower end, with a third piece of iron pipe extending upward above the bottom line of the retort. A fourth piece of pipe is connected with this



latter at right angles for convenience of attachment to condenser and wash-bottle. The space from D to E in the tube is loosely filled with fragments of quicklime, each somewhat larger than a pea. Two or three pounds of the chlorinated lime having been put into the retort, the pipe B is loosely inserted in the neck and the joint made tight with a stiff luting of clay or plaster of Paris. The retort is then placed on a charcoal or other moderate fire, the portion of the pipe containing the lime being in the fire. Connection is made with the condenser and wash-bottle as soon as steam begins to come over, and as soon as the air in the apparatus has been displaced connection is made by rubber tubing with the gas bag or rescrvoir. The moisture in the heated substance first passes off together with gaseous matter, the latter being decomposed by the lime; then as the temperature rises and approaches low redness oxygen is rapidly dis engaged, and if the fire is good ten minutes' heating will suffice to exhaust the charge. The stop-cock at bag or reservoir having been closed the retort may be slipped out, another similar one already charged put in its place, and the operation repeated if desired. The chloride of lime should not be too moist when placed in the retort, or the charge greater than will loosely cover the bottom of the vessel to a depth of 11 inch. If a sudden pressure greater than the delivery-pipe can relieve is developed in the retort the luted joint acts as a safety-valve. The sheet-iron retorts do not, of course, last very long under such treatment. If the pipes arc well washed on the inside with a thin paste of ochreand water and allowed to dry, the gas and vapours passed through will not affect them much after the first charge. The lime in the tubes is usually sufficient for two or three charges. It is better to renew it frequently, as it is gradually converted into caleium chloride, which melts on heating, and when cooled requires to be washed out. On a larger scale retorts similar in form to those used in making coal-gas may be advantageously employed, the large delivery-tube, partly filled with fragments of quicklime, being arranged so as to pass over the fire and be kept at a low red

#### THYMOL PRODUCTS.

The Society of Practical Hygiene of Paris, who have lately opened a depôt at 8 Long Lane, London, have introduced several articles for the toilet and for disinfectant purposes, with thymol as the active base. Thymol-Doré is a fluid of very pleasant odour, suitable for lotions for wounds, cuts, burns, and sores, or to be added to the bath. It may also be used as a general mouth-wash. For the bath it is also put up as a salt in cylindrical glass vessels. The company also make soap and toilet powder, with thymol as a base.

#### THE BRAVAIS PRODUCTS.

At the same address (8 Long Lane) is also established the London depôt for the products of the Company formed to work Fer Bravais and other products. Fer Bravais is now supplied with the patent "compte gouttes," or drop measurer, all fitted neatly into the ease. The company have now introduced a Quinquina Bravais, being a concentrated liquid extract of the active principles of cinchona. They also exploit a mineral water called "Eau de Vernet." It is a gaseous saline water, recommended for the table as a remedy in indigestion, and in many urinary complaints.

#### TAMARIND LOZENGES KANOLDT.

This is a German lozenge, prepared by C. Kanoldt, apothecary of Gotha, and introduced to the English trade by Paul Metz, of 10 Jewin Street. The lozenges are intended as laxatives, or mild aperients. The flavour of the mass is faintly acid, and not at all nauseous. Each lozenge is coated with chocolate, like a chocolate cream, and is also wrapped in tinfoil. Each box contains a circular, describing in thrilling terms the dangers of constipation and the virtues of the lozenges.

#### BURK'S MEDICINAL WINES.

WE have received from Mr. P. Pfliederer, of 37 Farringdon Street, specimens of medicinal wines manufactured by Mr. C. H. Burk, Apotheker, Stuttgart. There are four varieties: a cinchona malmsey, a ferruginous cinchona, a cocoa cinchona, and a pepsine wine. The latter is stated to be double the strength of the preparation of the German Pharmacopæia. The cocoa-cinchona wine is very likely to secure popularity here on account of its pleasantness and the valuable pro-

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perties of the combination. The ferruginous cinchona wine contains, besides cinchona alkaloids, I per cent. of ammoniocitrate of iron. The alcoholic strength is low, but sufficient to preserve the wines for any time, and their medical value is testified by so eminent an authority as Dr. Hager, whose endorsement will carry more weight with pharmaceutists than testimonia's generally do.



#### LIQUIDATIONS.

COWBURN, SAMUEL & SIDNEY, Rawfolds in Gomersal, nnder firm of S. Cowburn & Co., manufacturing chemists. August 2.

EMMS, WILLIAM ROBERT, 27 Meeting House Lane, Peckham, chemist and druggist. July 28.

HUMPHREYS, THOMAS, Caroline House, Pwllheli, druggist. July 14.

PONTEFRACT, NORMAN, Bank Bottom, Elland, formerly under firm of Schofield & Pontefract, manufacturing chemist. July 9.

ROWLATT, THOMAS CHARLES, Fore Street, Hertford, chemist. July 12.

SMITH, THOMAS WILLIAM, Great Yarmouth, chemist and druggist and dentist. July 19.

#### PARTNERSHIPS DISSOLVED.

Brown, EDWARD & Son, Woodhouse Lane and Hyde Park, Leeds, chemists and druggists. June 30. (Edward Brown and Edward Oliver Brown.) Debts at Woodhouse Lane by E. Brown, at Hyde Park by E. O. Brown.

CHADWICK, ROBERT, & SON, Clensmore, Kidderminster, manufacturing chemists, drysalters, and coal merchants. June 24. (Robert Chadwick and John William Chadwick.) Debts by R. Chadwick.

COULSON & JACOMBS, Ludgate Hill, Birmingham, druggists, drysalters, and oilmen. June 30. (John Coulson and William Henry Jacombs.)
Debts by Coulson.

MAYFIELD, J. T., & Co., High Street, Nottingham, chemists and druggists.

April 14. (John Thomas Mayfield and George Eiward Inger.) Debts by Mayfield.

Moss & Hey, Dean Head Farm, Blatchenworth and Calderbrook, manufacturing chemists. July 20. (Edwin Moss and James Hey.) Debts by Moss.

SHARPE & Son, High Street, Notting Hill, pharmaceutical chemists.

June 30. (George Young Sharpe and Leonard George Sharpe) Debts
by L. G. Sharpe.

## Trade Aotes.

MR. RICHARD THOMAS, of Burnley, has disposed of the drug business carried on there by himself and late brother for 35 years to Mr. Charles E. Francis, who has had the management of it for some time.

MR. R. B. SANDILAND, JUN., Pharmaceutical Chemist, of Bicester, has succeeded to the business of Mr. E. Taylor, of Droitwich. The valuation was conducted on behalf of the vendor by Mr. G. Walker, and for the purchaser by Mr. F. J. Brett, of Leicester.

Messrs. Bourne & Taylor have taken the agency for the plasters of the well-known firm of Desnoix & Co., of Paris. They make a special kind of adhesive plaster, called "Sparadrap Agglutinatif," which is very supple and pliant, will adhere to a bleeding wound, and contains no resin or turpentine.

INSURED LETTERS.—Mr. Fawcett has under consideration an insurance scheme by which the public will be enabled to send money between places in the United Kingdom with absolute immunity from loss, and with practically as little trouble to themselves as is now involved in the making-up and posting of a registered letter. The maximum amount insurable is still under consideration.

MR. GEORGE PATTISON, of St. John Street Road, answers by advertisement certain allegations which have been made by interested persons as to the abandonment of the manufacture of Young's corn plasters. He has bought the whole concern, and sees to the manufacture himself, which, as might be expected, he carries on more vigorously than it ever has been conducted.

THE PURE BEVERAGE COMPANY (LIMITED).—Office: 3 Copthall Buildings.—Under the above title a company has been registered. Objects: To manufacture "Sparkling Phosphade" and "Sparkling Hygeia," and to obtain the necessary rights from Messrs, Idris & Co. and Mr. R. McDougall. Capital: 100,000l., iu 1l. shares. Signatories: J. S. F. Cowell, 9 New Broad Street, E.C., 100; W. Kirkland, 1 and 2 Cheapside, 1; W. Doherty, 8 Great Newport Street, 50; W. R. Horncastle, 61 Cheapside, 100; R. McDougall, Washington Hotel, Liverpool, 1; F. Grant, 4 Duncan Terrace, Islington, 1; C. Hight, 3 Copthall Buildings, E.C., 1.

#### MISCELLANEOUS FORMULÆ.

SCENTED SOAPS.—The Pharmaceutische Centralhalle quotes the following formulæ from the "Soapmaker" (Seifenfabrikant).

Brown Eagle Soan.

		401	01010	1000				
					-	-		Kiles.
Co	chin cocoa-n	ut oil	••		• •			70
$\mathbf{H}_{0}$	ogs' lard	• •		• •	• •			30
So	da lye, 38° B.	••	••	••		••	• •	50
ne soar	is perfumed	with-	_					
	•							Grains
M	irbane oil 📑			• •				160
$B\epsilon$	ergamot oil					• •		120
Cl	ove oil			••				70

And coloured with "Brillantbraun," 140 g., previously dissolved in boiling water.

ng v	vater.								
			Fam	ily Se	oap.				
								Kilos.	
	Cocoa nut oil	• •		• •		• •		25	
	Soda Iye, 30° B.	• •	••	••	••	••	• •	20	
Per	fumed with-								
								Grains	
	Bergamot oil	• •						40	
	Cassia oil			• •	• •			40	
	Sassafras oil		• •					20	
	Lemon oil	••	• •	••	••	••	••	20	
			Viol	et Soc	<i>1))</i> .				
					1 "			Kilos.	
	Cochin cocoa-n	ut oil			••			50	
	Soda lye, 38° B.			••				24	
	Potash lye, 38°	B.	••.	.,.	٠,٥,٠		.,	1	
-									

Perfumed with violet root 1 kilog., and storax liquid ½ kilo., infused in fats.

9.4						
						Grains
Cassia oil	• •	• •			• •	 25
Sassafras oil	••	••		• •		 25
Bergamot oil	• •					 25
Lavender oil	• •	• •				 30
Peruvian bal	sam					 20
Orange-peel o	il	••				 10
Palma-rosa o	il		••			 6
Musk essence						 35

And coloured with 70 g. "Brillantbraun" dissolved in boiling water.

		Tar	Soar	) <b>.</b>		
			_			Kilos.
Cocoa nut oil					 ••	35
Soda lye, 45° B.	• •	••		• •	 	18
Good wood tar	••	• •			 ••	3
Infused in the melted	cocoa	-nat oi	1.			

THE Tutorial Class of the South London School of Pharmacy commences on August 15, and prepares students for the October examinations. The general courses of lectures on chemistry, botany, &c., will commence on September 15.

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## Medical Glennings.

The election of Mr. Erasmus Wilson to the presidency of the College of Surgeons has been severely criticised in the Lancet on the ground that Mr. Wilson is a dermatologist, and therefore more of a physician than a surgeon. As a general surgeon, the Lancet declares, Mr. Wilson is not eminent.

Poisonous Scents.—Mr. M. Bloxam, of Dorset Square, states in the *Lancet* that a little girl had bought some heliotrope perfume at a bazaar, and had applied it on her face. This caused a vesicular eruption, swelling, itching, and in fact erysipelas, which lasted for some time. The scent is being examined by Mr. Greenish, but Mr. Bloxam believes it was made with some of the products of coal tar, and not with the odoriferous principles of plants, thus acquiring its irritating properties.

The Geographical Distribution of Goître in England has been studied by Professor Lebour, of Newcastle. One important point only he considers to be established as common to those rocks on which goître does not occur—the absence of limestone, together with that of metallic impurities. In this respect his results agree with those of Dr. de St. Lager, of Lyons, who has investigated the occurrence of the disease in France. In both countries the rocks on which goître occurs most frequently are both calcareous and metalliferous. Metalliferous impurities alone cannot be credited with the origin of the disease, or the Devonian and the granite would not be free from it. And the absence of chalk does not check the disease, or the ferruginous sands of the Weald would not support it.



THE Board of Trade Returns for July still indicate steady trade, though not rapid progress. The value of the imports for the month amounted to 32,151,284*l*, as compared with 33,352,595*l*. The exports compare thus: July, 1880, 20,270,579*l*.; July, 1881, 20,429,889*l*. The chemical markets indicate a considerable decline in the exports of alkali, both as regards quantity and value. The figures are:—

Alkali	••			••	••	July, 1880 Cwt. 628,655		July, 1881 Cwt. 532,887
;;	••		••			, ,		£ 172,599
Chemical	produ	cts	• •	• •	• •	202,707	• •	200,132

The limitation of business in the chemical market is due to some extent to the greater firmness of manufacturers. As a rule, the soda manufacturers decline to accept forward orders except at higher rates.

Citric acid continues steady at 1s.  $11\frac{1}{2}d$ . to 1s.  $11\frac{3}{4}d$ . Tartaric is rather duller at 1s.  $7\frac{1}{4}d$ . for foreign, and 1s.  $7\frac{1}{2}d$ . to 1s.  $7\frac{3}{4}$  for English. Cream of tartar is rather easier.

In drugs there are not many variations to report. Aloes are again rather firmer for Cape, which is bought readily. Balsam of capivi is now more abundant, and prices are giving way. Balsam of Peru is a shade easier. In camphor there is no change, and the stocks remain very large. Cinchona.—The variation in price has no doubt been in favour of buyers, but in view of the large quantity now arriving prices keep wonderfully steady. Ceylon barks have been offered on an unusually large scale, and have realised full rates. There is a large stock of South American on the market, the new "Cuprea" still arriving abundantly. The

latter has rather eased, being now quoted at 1s. 6d. to 2s. 5d. Other South American sorts are only let go in small lots.

The prices for quinine are unchanged, makers being at present fully booked.

Cubebs are running short, and holders now ask very high prices.

Almond oil is again 1d. dearer, castor is steady, and cod liver is firm at the recent advance, with a possibility of still higher prices during the winter.

Respecting otto of roses, Messrs, Domeier & Co. report the yield as about equal to 60,000 oz. Last year it was 45,000 oz. In 1879 it was 31,500; in 1878, 48,000; in 1877, 31,500; in 1876, 54,000; in 1875, 64,500; in 1874, 48,000; in 1873, 90,000. The quality of this year's supply is said to be exceptionally fine, and, in consequence, their Kezanlyk house reports that nearly the whole of the produce has already been purchased at about last season's prices.

The position of opium is explained in our Smyrna letter. There is now no doubt of a very heavy crop, and though some complaints of the quality of the supply which has as yet reached London have been made, there is not much reason to expect that it will fall far below the average in this respect. As to the price, during the forthcoming season there seems a fair probability that the demand from China will suffice to prevent it falling much below present rates, and it may, speculation aiding, somewhat recover.

O1Ls.—Olive still continues to advance, average prices being fully 1l. dearer this month than last. Linseed oil also shows a hardening tendency, 5s. advance having been made within the past few days; none to be bought on the spot at less than 27l. 5s. Rape is also firm at an advance of nearly 2l. over last month. Cottonseed is also 1l. dearer, but cocoanut is rather easier. Turpentine has fluctuated considerably within the last week. Having advanced to 3ls. 6d. it fell suddenly to 33s. for spot, and 32s. for September-December, but it has again rallied and is now quoted 35s. in both positions. Petroleum has been dealt in at  $6\frac{1}{2}d$ ., but it has recently become firmer, and is now quoted  $6\frac{2}{8}d$ . to  $6\frac{3}{4}d$ . spot, and  $6\frac{7}{8}d$ . November-January.

Mmtkly Statement of the Stocks at the Port of London on July 31, 1881 and 1880.

	1881	1880		1881	1880			
Aloescs	3,042	1,449	Gum (cont.)—					
,,kegs	1	12	Damar pkgs	3,342	4,648			
,,gourds	29	278	Galbanum "	19	12			
Aniseed, Star chts	907	403	Gamboge. "	280	138			
Arrowrootcks	12,947	15,259	Guaiacum ,,	25	52			
", bxs & tins	8,25	14,708	Kino "	21	34			
Balsamcks, &c.	24	74	Kowrietns	719	441			
Bark, Medicinal			Masticpkgs	128	126			
cks, &c.	1,2 3	967	Myrrh, E.I. ,,	246	170			
", srns, &c.	34,533	20,622	Olibanum ,,	6,841	3,543			
Boraxpkgs	763	419	Sandarac ,,	94	227			
Bees' Waxbls &			Senegaltns	9	19			
srns	822	578	Tragacanth pkgs	2,016	2,614			
" cks & cs	1,761	2,066	Ipecaccks & bgs	116	136			
, cakes	10	227	Jalapbls	207	245			
Wax, Jap. veg. pkgs	6,019	10,901	Nux Vomica pkgs	1,167	1,009			
Camphorpkgs	9,056	8,055		ĺ.,				
Cardamomschts	604	345	Oil—					
Cocc. Ind. bgs, &c.	852	911	Castorcks	14	92			
Colombo root pkgs	1,013	365	,,cs	9,548	11,729			
Cream Tartarcks	85	192	Palmtns	370	920			
Cubebsbgs	93	93	Cocoanuttns	11,166	6,018			
Dragonsblood chts	255	153	Olivecks, &c.	1,320	770			
Galls, E.I. cks & cs	3,066	3,032	Aniseedcs	126	227			
M'terranean sks	3,392	815	Cassiacs	565	333			
			Opiumchts, &c.	989	885			
Gum→			Rhubarbchts	929	947			
Ammoniac pkgs	295	383	Sarsaparillabls	475	559			
Animi & Copal			Sennabls, &c.	1,528	1,552			
pkgs	4,002	2,004						
Arabic, Barbary	1	· ·	Shellac-					
pkgs	1,045	2,039	Orangechts,&c.	16,138	22,695			
Turkey ,,	1,835	2,8 5	Garnet ,,	16,237	14,185			
E.I,	3,211	2,113	Button "	5,128	2 370			
Assafœtida ,,	557	335	Turmerictns	2,703	2,963			
Benjamin ,	2.743	2,519	Vermilion	17	136			
, ,,		,						

# Krchnige Column.

ADVERTISERS IN THE EXCHANGE COLUMN will ad it very much to their advantage to draw up eir announcements so that they will fall aturally into oue of the divisions into which he advertisements are grouped.

We would also suggest that those who avail emselves of the Disposal section will be wise define, with some approach to detail, what ey have to sell. Probable purchasers are too isy, in most cases, to enter into preliminary prespondence, which is likely enough to have a pultimate result.

TERMS.—Announcements are inserted in this lumn at the rate of one halfpenny per word, a condition that name and address are added. ame and address to be paid for. Price in gures counts as one word.

If name and address are not included, one empy per word must be paid. A number will ten be attached to the advertisement by the ublisher of THE CHEMIST AND DRUGGIST, and 1 correspondence relating to it must be didressed to the "Puhlisher of THE CHEMIST ND DRUGGIST, Colonial Buildings, Cannon creet, London, E.C.," the envelope to he adorsed also with the number. The Publisher ill transmit the correspondence to the adverser, and with that his share in the transaction III cease.

Deposit of Money.—In order to ensure fety we offer the following system:—The richaser of anything advertised in the Exange Column may remit the amount to ustee shall acknowledge receipt to hoth parties hy st-cards, and shall only pay it away on the vice of the remitter. Whether returned to morpaid to the seller, we shall charge a comission of 2½ per cent. on any money thus using through our hands, and not less than 6d. In any single transactiou.

#### FOR DISPOSAL.

#### Dental and Surgical.

set of tooth-instruments, little used, 1s. 6d. each. Send for description to 159 Meadow Street, Moss Side, Manchester.

ahogany case of tooth-forceps, &c., quite hright, equal to new, will sell cheap. For particulars address "Dentist," care of Stobbs, Chemist, North Shields.

t of tooth instruments, excellent condition, Maw's make; two dozen new single and double trusses, Bailey's common and patent, offers required. Particulars from Dr. Carle, Chemist, Norwich.

#### Drugs and Chemicals.

uantity ribbon isinglass, 2s. 6d. lb. 57/22. cwt. pale clear English houey in 16-oz. pots, 10d. per lb. Hitchman, Kettering.

everal ounces Howard's quinine, 9s. 9d.; Howard's ferri et quiniæ cit., 2s. 10d.; 4-oz. pots ext. carnis, Liebig, 2s. 56/12.

in. and 4 in. bottles potas. iod. for 4l. 8s.; 56 in. tin pure glycerine, 1.260, 1s. 3d. per lb., bottles and carriage free. 57/9.

uper ess, lemon, ol. mentb. pip. L. P. & H. G. acid tart. ang. cera flav. zamaca, insect powder Dalmatian, and a quantity of surplus stock to be sold cheap. Send for list, stating quantity required. R. Sowerby, Middleshorough.

#### Proprietary Articles.

3 Thompson & Capper's 1s. hoxes sugar milk, half price. B. Shaw, Chemist, Halifax. doz. Bradhury's sheep dip, good condition;

doz. Bradhury's sheep dip, good condition; 36s. for lot, carriage paid. Younger & Ridley, Brampton, Cumberland.

#### Apparatus.

Cocking's rotary pill-machine. 51/10.

Cartnell's pill-coater, smallest size, price 12s. 6d. Forbes, Chemist, Reigate.

No. 4 Francis printing press, with extra type, cost over 6l., never been used, perfect, pay carriage to any address, 4l. C. Scanlan, Chemist, Droylsden, Manchester.

Oil-cisteru, three compartments, ahout 5 ft. 10 in. long, 3 ft. 8 in. high, 1 ft. 4 in. hroad, with lid, useful for wet or dry goods, price 20s.; four oil-cisterns, with hrass taps, holding 4 gallous and 8 gallons each; price, 1s. 6d. each. B. Wood, New Pellon, Halifax.

One of Hewitt's patent pulverising machines, for the use of druggists, dentists, calicoprinters, &c., equal to new, with all recent improvements, with iron pestle and mortar, 12 inches, can be worked by hand or steam power; also a Bushby's patent pill machine with press-rollers and all the latest improvements; both will he sold cheap on account of declining business. Apply to George Clarke, 7 Blossom Street, Great Ancoats, Manchester.

#### Educational.

Statham's student's chemical chest, complete, nearly new, original price 3 guineas; what offers? Dell, Chemist, Leigh.

Botany.—Over 100 indigenous plants, including the official, mounted, classed, named, 6s., carriage free. Tully, Tunbridge Wells.

Having passed Minor, all hooks (with notes), specimens, apparatus, and chemicals for above for disposal, in bulk or singly; list sent. Whiteley Robinson, 15 Promenade, Bridlington Quay.

Cash offer for Statbam's students' chemical cahinet (cost 31. 3s.), containing upwards of 60 chemicals, with quantity of apparatus, only been used once. "Medicus," 79 Bath Row, Holloway Head, Birmiugham.

Set of illegible autograph prescriptions (original)
2s. 6d.; 30 prescriptions (catch and difficult)
given to dispense at Minor dmiug past 12
months, 2s.; 50 questions asked of my successful students at last Minor, 1s. 1d.; lot of
cheap, almost new, books, stamp for list.
Saunders, Medical Tutor, 79 Gaisford Street,
N.W.

#### Literature.

Wills' "Materia Medica," "Pharmacy," "Practical Analysis," and "Physics"; first P.O.O., 10s. 6d. "Chemicus," 2 Blenheim Parade, Cheltenhom.

Twelve vols. Chemist and Druggist, bound in blue cloth, two vols, unbound; offer wanted, in drugs or patents, for the lot. W. R. Stevens, Chemist, Woodberry Pharmacy, Stamford Hill.

Barton & Castle's "British Medicinal Plants," new edition, revised by J. R. Jackson, Kew Gardens; several hundred accuratelycoloured figures on 48 large plates; perfectly new copy; 15s. only (published 1l. 10s.), 1877; very few left. M. Percy, 11 James Street, Haymarket, London, S.W.

Galloway's "Analysis," W. Newell's "Astronomy," "General Physics," Parnell's "Chemical Analysis," Abel Bloxam's "Chemistry," Brande's "Manual Chemistry," Courtenay's "Prostrate Gland," Conolly's "Insanity," Hull "On Morbid Eye," Bird's "Urinary Deposits," Gregory's "Conspectus," Edinburgh Medical Dictionary (2 vols., new bound), Gifford's "English Lawyer," Stannard's "Grecian History" (2 vols.), Journals, 1854 to 1878, new bound, half calf; ditto, 1879 to 1881, unbound. What offers? E. J. Owles, Chemist, Ipswich,

Sixty-two numbers of the Chemist and Druggist, commencing January, 1876, all in good condition; what offers? cash or useful exchange. Healy, Boundary ilonse, Barnet.

Pharmaceutical Journal, third series, vols. 1 to 9 bound, 11 and 12 in numbers, all complete; 3 vols. Art Journal; no reasonablo offer refused. Kirkman, 8 Waterloo Terrace, Lewisham, Kent.

#### Shares.

100 shares iu Indian Zocdone Company. "Alpha," 18 Gladstone Street, Moss Side, Mauchester.

#### Soda-water Plant.

Soda-water machine by Barnett, with silverlined condenser, lead generator, gasometer; complete. Price ou application to Dunmore, Chemist, Downton, Wilts.

Soda-water machine with gas-generator and gasometer; complete; price 131, 13s. Tyne Val: Chemical Company, Forth Banks, Newcastle-upon-Tyne.

#### Shop Fittings.

Cbeap.—Eight 2-gallou pear-shaped show carboys. Hammond, Chemist, Hull.

Six dozen 80-oz. blue syrup-bottles, loose stoppers; what offers for whole or part? hottles labelled various; only few heen used. W. Gilbert, Homecopathic Chemist, Bournemouth,

Shop dial (English) as Maw's, fig. 256, diameter 14 in., excellent timekeeper and good condition; 4 2-gallon fig. 1 carboys and 2 1-gallon ditto, together or separate, at half list price. Jeffery, Chemist, Watford.

Two pairs of 12-inch brass agate beam scales on mahogany slab, good as new; one set of hrass weights, one Wedgwood mortar and pestle, one uew shop-filter, sundry palateknives, three carboys, two with plain stoppers, oue cut pear-shaped, &c. Particulars, B., 11 Bridge Street, Goole.

Wanted cash offer for one specie jar, labelled magnesia, with Royal arms, and gilt cover, 24 inches bigh to shoulder, York Glass Company's make; mahogany staud for ditto, 7 inches high, both nearly new, total height 31 inches; a so one Cartner's pill-coater. William Ramsden, Fallowfield, Manchester.

Ninety shop rounds, assorted; 46 gold-labelled Corhyn quarts, 11 blue syrup-bottles, 8 4-lb. blue ointment-jars, 9 ½-lb. ditto, 3 Cj show carboys, 3 Ciji ditto, cut stoppers; 8-ft. 6-in. glass wall - case with cupboards under; 8-ft. 6-in. mahogany-top counter, 7 drawers and till; 4-ft. 6-in. ditto with dispensing-screen; 5 nests mahogany-fronted drawers with lockers under; nest French-polished drawers; 130 ft. mahogany-fronted shelving; 50 ft. Freuch-polished shelving. What offers? Hamhridge, Chemist, Highworth, Wilts.

Wall-case, mahogauy, 5 feet long, 8 feet 6 high, 95s.; wall-case, pine painted, 9 feet long, 8½ feet high, 120s.; 6-foot dispensing. screen, mirror centre, case each side, 110s.; 7 feet long, 120s.; desk and case, Maw's, 42s. 6d.; case to go hefore desk, good as new, 30s.; fixtures of a shop, 13 feet square, only in a week, 24l.; heut-front case, 5 feet long by 12 inches broad, 57s. 6d.; ditto, 7 feet long, 84s.; 10 20-inch specie jars, nicely labelled, 25s. each; 48 1-gallon bottles, new labels, 1s. 10d. each; large assortment of counter-cases, from 5s. each; mahogany-top counter and return connter, 15 feet, in all 90s.; 7 or 8 lots of window-fittings, new fittings, ready for every size of shop. Write for lists. R. Tomlinson, Shop Fitter, 15 St. Paul's Square, Birmingham.

- Bargain.—Drawers, shelves, pots, bottles, counters, cases, and small stock for sale. Smith, Post Office, Stoke-on-Trent.
- To he Sold .- Nest of drawers, 12; 1-gallon store bottles, 1s. cach; 10 2-gallon, 1s. &d. each; various shop-jars, show-bottles, 2s. 6d. gallon; specie-jars, desks, counter-cases, pill-machines; handsome dispensing-screen, 5 ft. high, 5 ft. 9 in. long; lamps aud irons, shelving, iron mortars, cupboards, &c.; handsome cigar counter-case, 12 divisions, gold labelled, others not labelled; tobaccojars, sheet plate glass in mahogany frame, 5 ft. 10½ in. high, 4 ft. 10½ in. long; 2 mahogany doors glazed with embossed glass, scales, mahogany show-stand, medical books, surgical and tooth instruments: also various stoppered and plain bottles for pomades, eau de Cologne, esseuces, citrate magnesia, castor-oil, glycerine and lime-juice, 1 oz. white vials, graduated; eight tea-spoons, all clean; 20 per cent. off list prices; any quantity may be had; also, white covered pots for cold cream and pomade. 846 Old Kent Road.

#### Formulæ.

- The recipe for a first-class perfume, "The Devonshire Nosegay," or "Gem of the Toilette," price 3s. 6d. "Chemist," 20 Dean Street, Bedminster, Bristol.
- My formula for perfume, which lately obtained the premium, "having upwards of 170 competitors," I will forward on receipt of stamped addressed euvelope and 18 stamps, Address, E. Evans, 12 Derwont Villas, Champion Hill, S.E.
- Six golden recipes for 5s. (1s. each):—Neuralgia specific (infallible), seab cintment for sheep, toothache paste, brilliantine (inseparable), limes and glycerine, pink tooth paste (noted); guaranteed to give perfect satisfaction. H. Davies, Chem'st, Machynlleth.
- Specific for ringworm, itch, and all scaly diseases, never known to fail, 2s. 6d.; also 1s. for any of following useful recpies:—Furniture cream, "Eclipse" bouquet, eau de Cologne, glycerine and lime cream, lavender water, cold cream. Geo. Smith, 1 St. James' Place, Forest Laue, Stratford, E.
- Fragrant foaming dentifrice (like "Floriline"); marking ink, sine silver (aniline), writing executed defies chemicals; effervescing fruit saline (resembles Eno's); magic neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); limejuice and glycerine (inseparable, white as milk); blue-black ink (non-corrosive, sine iron or galls); cherry tooth paste (never ferments, like Gornel's); brilliantine (inseparable, like Rimmel's); pill-coating, (pearly white, no mucilage or mastic used); glycerine jelly (perfectly transparent); crimson marking ink; hair restorer (colourlcss, no deposit, sine silver); aromatic vinegar; toilet vinegar (as Rimmel's); platepowder (like Stevens' "Silicon"); Oleum Flavum Conc., for pomades (colour stable); soluble essence ginger (like Hay's); corn solvent, clear (not acid); liquoi copaibæ comp. c. buchu et matico (mixes clear with water); gonorrhœa paste, excellent (Dr. Ricord's); taraxacum and podophyllin (resembl s Pepper's); with many others; sendstamp for list, stating wants. Chemical analyses for the trade. The toilet preparations are identical with those prepared by a wholesale West-end firm; others equally good; all inexpensive to make; 5s. each (five for 1l.). Readers are cautioned against cheap and worthless imitations. I was first to advertise formulæ in this journal. Note address, "Analyst," care of Mr. Warnes, 79 Gaisford Street, N.W.

- Infallible drops for deafness, quite harmless, quickly relieve, best ever introduced; liquor. hepaticus (podophyllin, taraxacum, &c.), specific for all liver derangements, elegant popular remedy; conservatine, tasteless, innocent, odourless powder, 3d. packet keeps 10 gallons milk six days; hair-producer (genuine), never fails, most reliable, and best ever advertised; recipes and full instructions for making above, all easy and very remunerative, 1s. 6d. each, four for 5s., free. T. Langtry, 1 Christchurch Street, Hull.
- To make money and retain business, sell your own preparations manufactured from thoroughly genuine recipes: — "Effervescent Depurative Saline," facsimile of Eno's, costs 10d. lb., entirely soluble, equally nice, keeps well; "Red Rose Lotion" (Erasmus Wilson's recipe), invaluable for removing redness, freckles, sunburn, tan, &c., resembles Sulpholiue, one-eighth cost. "Lime Cream and Glycerine," inseparable, milk-white, creamy, unchaugeable, 2s. 6d. gallon; "Tonic Hair Lotion," simple, elegant, cooling, and inexpensive; "Foaming Dentifrice," equals Floriline, one-eighth costs; "Hair Cleaner" (popular), 3d. packet, costing 1d., makes half-pint cleansing cooling wash, like Butler's " Lavender Water," guaranteed sweetest and most lasting extant; "Bark Syrup" and "Phosphated Fruit Syrup," mixed 1 oz. to bottle, aërated water form, splendid revivifying potations, former resembling Rubine, latter Zoedone; "Campholyde," latest and most certain specific for all neuralgic paius; "Eau de Cologne," equals Farina's best; "Liver Pills" (Podophyllin), splendid combination, most reliable in cffect, keep well; "Stomach Corrector" (Dr. Taylor's), for all stomach derangements, very effective, pleasant taste; "Occasional Pills," for ladies, tonic and emmenaque, better than Widow Welch's or other female pill; "Cryptzymosis," never-failing injection for gleet and all discharges; recipes, with full directions, 1s. 1d. each, three for 2s. 6d., post free. T. Brooks, Chemist, Louth, Lincolnshire. List free.

#### Miscellaneous.

- Vulcanite speaking-tube, complete, 7 ft. long. Brown, Chemist, Dover.
- Several job lines after stock-taking. Send for list to Sneath, Chemist, Newark, Notts.
- Waterproof cart-cover, pliable as indiarabber, cheap or exchange. King, Chemist, Soham. Job lot goldbeaters' skin, 2½ by 5 inches, very
- Job lot goldbeaters' skin, 2½ by 5 inches, very good and clean, 6d. dozen, 3 doz. free 16d. Brooks, Chemist, Louth, Lincs. Three Gould's homeopathic counter-cases, in-
- Three Gould's homoeopathic counter-cases, including contents, net cost 5l., 7l., and 10l., half price, Davidsou, Bellevue, Lansdowne Road, Old Charlton.
- To Manufacturers and Others.—A recently and carefully compiled MS. register, comprising a list of 5,000 of the best hotels in England, Scotland, and Ireland; cheap. 4/186.
- Brass plate, 18 in. hy 12 in, "Professional Advice Gratis, daily, from 12 to 1 o'clock P.M.," cash offers requested. Queen borough, Chemist, Boston, Lincolnshire.
- For Cash.—Hot air bath, copper, as Maw's, page 88, 9s., in good condition; Cooper's dipping powder, 7s. per dozen. Coley, Chemist, Stroud, Gloucestershire.
- To Galvanists.—A handsome embossed and enamelled plate-glass tablet, 31½ by 21, subject "Galvanist" in 3½-inch letters, green and gold on a cream ground, borcer of plumes and filies in silver, gold, and blue, price 14. 2s. 6d. Edward Marsh, Chemist, Bristol.

- Splendid hoist, new, sale or exchange, brake, cbain, &c., complete, very useful for ware-house; want shop fixtures, cases. Gray, Chemist, Chapel-on-le-Frith.
- Myers' cattle spice, purchased November, 1881, 5-cwt. lots, 18s. per cwt.; ton lots, 16s. per ton; Cartner's piil-coater, 12s. 6d.; 6,503 medicated spirit of wine slips, 3s. Townley, Keswick.
- Set of dental extracting instruments, good condition, 2l. 8s; Southall's materia medica cabinet, 1l.; first-class microscope, 1l. 5s.; 28s. set chemical apparatus, 15s.; stampe; 9-carat gold curb Albert, cost 7l., for 4l.15l.; sent on approval. Chemist, Lilach House, Crawshawbooth, near Mauchester.
- Twenty-seven dozon Jeyes' purifier, per box of 3 dozen, 4s.; Benetfink's base-coin detector, 5s.; Baker's patent sieve, three grades, 5s.; 45 l-lb. square tea tins, very thick, for tamples, with shelves; spittoon for teatasters, new; 10 Hoyle's cantharidine balm, for 4°. 6d., or exchange. Presley, Chemist, Bristol.

#### WANTED.

- Chepmell's animal charcoal. Headland's, Brown, Dover.
- Sowerby's "English Botany," odd volumes of. Price to 57/12.
- Formula for a good proprietary article that would sell well. 57/11.
- "Homœopathic Pharmacopæia," recent edition. F. N., 1 Bellevue Place, Malvern.
- Baker's No. 1 mixing and sifting machine. Forbes, Chemist, Reigate.
- Upright or bent glass counter-cases, cheap, cash or exchange. Hulme, Chemist, Longton.
- Pear-shaped carboy, 2 gals.; state dimensious. "Carboy," Post Office, Oldbury.
- Shop-fittings, apparatus for drying powders, and American drug mill; state cost, condition, and price. D., 173 Bermoudsey Street, S.E.
- Extracting, stopping, and scaling instruments.

  Apply "Dentist," 19 Milton Street, Dorset
  Square, W.
- Samuel Moore & Co.'s bronchital cigarettes; state quantity and price. T. B. Macfarlane,
- A plate-glass shelf, polished edge, 4 ft. to 5 ft. in length. Price, with width and thickness, to W. Gare, Bampton, Devon.
- A dental lathe, vulcaniser, flasks, &c. Price and particulars to S. Wilkinsou, Chemist, Birkenhead.
- Two 4-gailon show carboys, suitable stands, iron supports, plain or with scroll work, 4½ ftlong. Two. Quotation? Phillips, Chemist, Lower Norwood.
- Second-hand upright mahogany glass case for counter, 2 feet 4 inches high, 4 feet long, glass door or two doors, 6 inches from back to front, including door, bargain for cash. Particulars, B., 11 Bridge Street, Goole.
- 12-ft. nest, mahogany-fronted drawers with shelves over and lockers under; 4-ft. dispensing-case screen; 4-gal. pear-sheped carboy; 30-in. specie jar and stand; about 10-ft. window enclosure. Particulars and price to Harmer, Chemist, Windsor.
- Chemists and Druggists' Directory, 1880; Wood & Bache's United States Dispensatory; Piesse's "Perfumery"; Cooley's "Receipts"; British Pharmacopœia; state price, carriage paid. A., 57 Grovedale Road, Upper Holloway, London.

# Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

	offered by the Wholesale Firms.	•									
4	CHEMICALS.	1		t M	Ionth				M	onth	,
	ACIDS— Acetic per lb.	3. 0	$\frac{d}{3\frac{3}{4}}$	to	s. 0	$\frac{d}{0}$	* 0	$\frac{d}{3\frac{3}{4}}$	to	s. 0	d. 0
	rure ,,	0	<b>5</b>	••	0	9 11	0	5	••	0 1	$\frac{9}{11}$
N	Benzoic Sublimate ,,	6	Ü		Ü	0	6	Ü	::	0	0
П	Ex. Gum per oz.	1	9	• •	0 1	$\frac{0}{11\frac{3}{4}}$	1	9 11½	• •	0	0
	Gallic,	4	1112		0	0	4	3	::	0	0
	Hydrochlorper cwt. Nitrie per lb.	0	6	••	7	6 4	4	6	• •	7	6 4
	Oxalic,	0	$4\frac{1}{2}$	•	0	0	0	41/2		0	0
	Sulphuric, ,, Sahoylic,	8	0	• •	8	6	8	0	• •	8	6
	Jannie,	1	7		2	8	1	7		2	8
	foreigu,	1	72 72	• •	1 0	8	1	7½ 7¼	::	1	$\frac{72}{0}$
	Antimony, crudeper cwt.	40	0	• •	Ü	0	40	0	• •	U	0
	Arsenic, lump,	56 24	0	::	57 0	0	57 24	0	::	<b>5</b> 9	0
	powder, BRIMSTONE, rough per ton	107	6	••	10 117	9	$\frac{10}{122}$	9 6	• •	$\frac{0}{127}$	6
	roliper cwt.	8	6	::	9	6	8	6	• •	9	6
	flour, GLYCERINE, German	10	9	••	12	6	10	9	• •	12	6
	refined,	72	0		88	0	72	0		88	0
	crude brown ,, IODINE, dry p r cz.	50 0	6	• •	52 0	0 61	50 0	6	• •	52 0	$\frac{0}{61}$
	Magnesia, calcined per lh.	1	0		1	6	1	0	::	i	6
	MERCURY per bott.	$\frac{5}{125}$	0	• •	13)	0	127	6	• •	130	0
	MINIUM, red per cwt.	16	9	٠.	17	U	16	9	• •	17	0
	PRECIPITATE, red per lb.	25 3	6	::	$\frac{29}{0}$	<b>6</b> 0	25 3	6	::	29 0	6
	white ,, PRUSSIAN BLUE ,,	0	11	• •	0	0	2	11	• •	0	0
	SANTONINE,	21	6	••	0	0	21	6	• •	Ü	0
ĺ	SALICINE ,,	7 25	6	••	0	0	7 25	<b>6</b> 0	• •	0	0
	SALTS-			•••					••		
	Alum per ton powder	120 147	0 6	••	0	0	120 147	0 6		0	0
	Ammonia:										
	Carbonate per lb. Hidrochlorate, crude,	0	61	••	0	$6\frac{1}{2}$	0	61	• •	0	63
	white per ton	600	0	••	760	0	600	0	٠.	760	0
ı	Sulphate, Argol, Capeper cwt.	400 80	0	::	410 93	0	450 80	0	• •	415 93	0
1	Red,,,	65 36	0	••	80 36	6	65 36	0	• •	80 36	6
	Oporto, red ,, Sicily ,, ,,	0	0	::	0	0	0	Û	::	0	0
	Bleaching powder ,, Borax, British refined. ,,	5 61	0	• •	5 63	3	5 61	0	• •	5 63	3
	Calomel per lb.	2	8	::	0	0	2	8	::	U	U
	Chloral hydrate, Saame's ,, Liebreich's ,,	5	6	::	4 6	4	4 5	$\frac{2}{6}$	•••	6	4
l	Copper:			••					••		
ı	Sulphateper cwt. Copp ras, green per ton	19 45	0	••	19	3	19 45	0	• •	19	3
	Corrosive Sublimate per lh.	2 118	1	••	0	0	2	1	٠.	110	6
	Cream Tartar, Frenchper cwt.	95	0	•••	119	6 0	117 94	6	::	118	0
	Epsom Salts ,,, Glauher Salts ,,	4	3	••	<b>4</b> 5	9	4	0 3	••	<b>4</b> 5	9 6
	Magnesia: Caroonate	42	6	::	Ü	6	42	6	• •	Ü	Ü
	Pon 1, Hwds	72 6	3	••	0	0	72 6	3	• •	0	0
	Phosphorus per Ib.	1	11	::	2	Ü	1	11		2	Ü
	Potash: Bichromate,	0	6		0	0	0	6		0	0
	Carbonate:		-	•	v	ŭ			•	Ů	
	Potashes, Canada, 1st sortper cwt.	25	0		26	0	29	0		0	0
	Pearlashes, Canada, 1st sort,	37	0		0			6		0	0
	Chlorate per lh.	0	57	::	0	0	36	53	::	0	0
	Pru siate,	0	94	• •		1J 0	U	$9\frac{3}{2}$	• •	0	0
	Sulphate,	8	6		9	0	8	6	::	9	0
	Tartrate (see Argol and Cream of Tar.ar)										
	Potassium:		_		_					_	_
	Bromideper cwt.	8	<b>5</b>		1	6	8	5	::	1	6
	lodide per lb.	ช			Ü	ŭ	8	ŭ		8	ď
	Quinine: Salphate, Brili h, in										
V	bottles per oz.	13		••	0	0	13	0		0	0
	Sulphate, French ,, Sulphate, Germ in ,,	13		::	10 8	6 6	10	6		10 8	3
	Sal Acetos per lb.	0	$6\frac{3}{4}$		45	0	41	65 (r	• •	45	0
	Sal Ammoniac, British per cwt.	41	·	••	40	U	4.1	U	••	40	U

ND DRUGGIST.									365	·
Saltpetre:	Y	Las	t M	onti	1		Thi	- M	onth	_
Bingal, 6 per cent.	8.	d.	ı M	\$,	d.	s.		S	.ou tu	d.
or underper cwt.	20	9	to	21	3	23	9	to	24	0
Bengal, over 6 per	19	9		20	6	22	6		23	6
British, refined,	24	9	• •	25		27	0	• •	28	6
Soda: Bicarbonate ,, Hwds ,,	10 45	3	• •	10 0	6	10 45	0	• •	19	3
Carbonate:								••		
Sola Ashper deg Soda Crystalsper ton	66	$\frac{13}{3}$	• •	$\frac{0}{67}$	6	67	13 6	• •	0	0
Caustic	9	9		10	-	9		• •	10	Ü
Hyposulphiteper cwt.	8 14	0	• •	0	0	8		• •	()	(),
Nitrate, ,, Zinc Sulphate, ,,	12	3	• • •	14	0	14 12	3		14 14	6 ()-
SUGAR OF LEAD, White ,,	36	0		38	0	36	U		38	0
VERDIGRIS per lb.	26	-0 19}	• •	1	2	26	0 103	• •	0 1	2
VERMILION, English ,,	2	5		Ū	ũ	2	5	••	0	ű
China ,,	1	11	• •	2	U	2	2		0	0
DRUGS. ALOES, Hepaticper cwt.	70	0		149	0	70	0		140	0
Socotriue ,, Cape, good ,,	55	0	• •	130	0	55	0		18J	0
Inferior,	50 46	0		55 49	6	55 49	0	• •	$\frac{59}{54}$	6
Barbadoes ,,	50	U		16)	Ü	50	0		160	()
Curaçoa ,,	40 9J	0	• •	83 123	0	50	0	• •	65	0
AMBERGRIS, grey per oz. BALSAM-	1		••	1~)	U	87	6	• •	115	0
Canada per lb.	1	1		1	2	1	1		1	2
Capivi, Pe u,	1)	4	• •	2 10	8	10	2	• •	$\frac{2}{10}$	6 3
Tolu,	2	3		2	4	2	2	••	0	0
BARKS-		0		10						
Cauella albaper cwt.	15	0	••	$\frac{18}{24}$	0	25 18	0	• •	26	6
CINCHONA-			••		Ü	10	v	••	21	6
Calisaya, gool & fine per lb.	4 2	6	• •	6	0	4	6		6	0
,, medium ,, N. Granad . fair to fine ,,	2	6		4 3	6	2 2	6	••	3	6
" m d. to fair "	1	6		2	G	1	6		2	6
Columbian, fine ,, ord. to fair ,,	2	<b>4</b> 6	• •	3 2	4	2	4		3	4
Carthagena, good,	2	0	• •	3	6	2	6	• •	2 3	0 6,
E. 1. mosse 1	2	6		7	6	2	6		7	6
Ceylon, crown,	3	6	• •	6	0	3	0	• •	6	9.
Darjeeling, red fine ,,	3	0		3	6	3	6 0		<b>4</b> 3	6
BUCHU LEAVES,	0	2		0	11	0	2		Ü	9
Camphor, Chinapc: cwt. Japan,	82 85	6	* *	0	0	82 85	6	• •	0	0
Refin Eng per lb.	1	3	::	1	4	1	0 3	• •	0	0
CANTHARIDES, China ,,	1	4	••	1	5	1	4		1	5
CHAMOMILE FLOWERSper cwt.	3 25	0	••	3 75	4	25 25	0	••	3 75	4
Castoreum per lh.	2)	Ü		35	0	20	0	• •	35	0
DRAGON'S BLOOD, lp per cwt. FRUITS AND SEEDS (see also	93	0	••	330	0	8)	0	••	280	U
Seeds and Spices)					1					
Anisc, China Starper cwt.	85	0	• •	83	6	85	0		83	6
Spanish, &c,	23 3	6	• •	37 6	9	26	0	••	36	0
Beans, Tonquin per lb. Cardamoms, Ma'abar,	·	0	••	0	3	4	0	••	7	0
gool,,,	6	3		8	6	6	3		8	6
iuferior ,, Aleppy ,,	3 2	6	• •	6 6	0	3 2	6	••	6	(1)
Madras ,,	2	G	• •	4	6	2	6	• •	6 4	0 6.
Ceylon ,,	3	0	• •	7	6	2	0	• •	3	6
Cassia Fistulaper cwt. Cocculus Indicus ,	12	6	••	15 8	6	12 7	0 6	• •	15 8	0.
Colocyuth, apple per lb.	1	2		1	6	Ü	6	• •	1	0
Croton Seedsper cwt.	65 115	0	• •	67	6	65	0	• •	67	6
Cabehs, ,,	40	Ü	• •	$\frac{117}{47}$	ნ 6	140	0	• •	$\frac{145}{47}$	6
Fenugreek,	9	0		13	0	9	0		13	0
Juniper Berries " Nax Vomica "	10 6	6	• •	11	9	10 - 6	6	• •	11 9	()
Tamarinds, E. India "	5	6	• •	13	o l	5	6		11	9
West India,	10	0		14	0	9	6		14	U
Vanilla, large per lb. inferior ,,	23 14	0	• •	$\frac{28}{19}$	6	25 10	0	••	$\frac{33}{24}$	6
GINGER, Preserved ,,	0	4 4		0	7	0	43	• •	0	9.
Honey, Chiliper cwt.	40 3)	0	••	45	0	4 )	0	• •	46	0.
Jamaica per 1b.	4	3	• •	45 4	9	34	$\frac{0}{2}$	••	4)	6
Isinglass, Brazil ,,	2	2		5	0	2	2		5	Ö
Tongue sort ,, East India ,,	0	9 11	• •	5 5	1	$\frac{2}{0}$	9 11	• •	5	0
West India,	2	10	• •	4	9	2	10	••	5 <b>4</b>	9
Russ. long staple ,,	7	0		1)	0	7	0		10	ŏ
" inferior " " S.movia "	0 2	3	••	2	6	2	3	••	$\frac{0}{2}$	0
JALAP, good,	0	$9\frac{1}{2}$	::	ű	11	ő	91	::	0	6. 10
infer, and stems "	0	8	• •	0	9	0	8	• •	0	9.
LEMON JUICE per deg. LIME JUICE per gall.	1	07 6	• •	1	$\frac{11}{8}$	2	6	• •	2	10
LIQUORICE, Spanis 1 per cwt.	3)	0	::	36	0	U	0	•••	0	10
Liquirice Root ,,	2)	0		23	0	0	0	::	0	0
Manna, fluky per lb. Musk, Poi per oz.	1)	0	• •	4 53	6	9	0 6	• •	<b>4</b> 58	6
Grain,	30	0	::	6)	0	30	Ü		60	0
Yanan,	32	U	• •	38	6	32	U	••	38	6
OILS (see also separate list) Almond, expressed per lb.	1	3		0	0	1	4		0	0
Castor, 1st pale ,,	0	$3\frac{1}{2}$		U	33	0	$3\frac{1}{2}$	• •	0	4
secon1 "	5	31	••	0 5	3 g 6	0 5	31	• •	0 <b>5</b>	33
Cod liverper gall.	)		• •			0	V	• •	0	6

 $\begin{array}{c} \mathbf{4} \\ 2 \\ 11 \\ 5 \\ 3 \\ 9 \\ 4 \\ 11 \\ 2 \\ 0 \\ 0 \\ 6 \\ 0 \\ 0 \\ 0 \\ 5 \\ 5 \\ 8 \\ 7 \\ 4 \\ 9 \\ 5 \\ 2 \\ 10 \\ 5 \\ 1 \\ 4 \\ 2 \end{array}$ 

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This Month

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Essential Oils: Almond per lb. Anise-seed, star " Garman " Gajeput per bott Caraway per lb. Cassia " Cinnamon per oz Cinnamon-leaf " Citrouelle " Clove " Lavender, Exotic per lb. " Lemongrass per oz. Neroli " Nutmeg " Orange per lb. Otto of Roses per oz. Neroli " Peppermint: American per lb. (H. G. Hotchkiss) " English " German " Rosemary " Sassafras " Spearmint " Tbyme " Mace, expressed per oz. OPIUM, Turkey per lb. " Middling to fair " Ordinary " Chiretta per lb. Middling to fair " Ordinary " Chiretta per lb. Galangal per cwt Cbina " Chiretta per lb. Galangal per cwt China " Chiretta per lb. Galangal " Copal, Manilla " Angola, red " Dahmar, pale picked " Sorts, mid to fine " Copal, Manilla " Angola, red " Copal, Manilla " Copal maper dy golow	$\begin{array}{c} 9 & 0 & 0 & 0 & 0 & 9 & 0 & 0 & 0 \\ 10 & 9 & 0 & 10 & 9 & 0 & 10 & 0 \\ 2 & 0 & 10 & 0 & 9 & 0 & 10 & 0 \\ 4 & 3 & 0 & 3 & 4 & 3 & 0 & 3 & 3 & 4 \\ 2 & 6 & 6 & 6 & 6 & 6 & 2 & 6 & 6 & 6 \\ 6 & 6 & 7 & 6 & 7 & 6 & 7 & 6 & 7 & 6 \\ 0 & 2\frac{1}{2} & 0 & 0 & 0 & 0 & 2\frac{1}{2} & 0 & 0 \\ 0 & 0 & \frac{1}{2} & 0 & 0 & 0 & 0 & 2\frac{1}{2} & 0 & 0 \\ 0 & 0 & \frac{1}{2} & 0 & 0 & 0 & 0 & 2\frac{1}{2} & 0 & 0 \\ 0 & 0 & \frac{1}{2} & 0 & 0 & 0 & 0 & 2\frac{1}{2} & 0 & 0 \\ 0 & 0 & 7 & 0 & 7 & 0 & 7 & 0 & 7 & 6 \\ 1 & 6 & 7 & 6 & 1 & 6 & 7 & 6 \\ 0 & 3 & 0 & 0 & 0 & 130 & 0 & 0 & 0 \\ 0 & 3 & 0 & 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 3 & 0 & 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 3 & 0 & 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 3 & 0 & 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 3 & 0 & 0 & 0 & 0 & 3 & 0 & 0 \\ 0 & 3 & 0 & 10 & 3 & 7 & 0 & 10 & 3 \\ 0 & 5\frac{1}{4} & 0 & 0 & 0 & 5\frac{1}{4} & 0 & 0 \\ 7 & 0 & 10 & 3 & 7 & 0 & 10 & 3 \\ 12 & 0 & 20 & 0 & 10 & 0 & 0 & 23 & 0 \\ 20 & 0 & 3 & 10 & 2 & 0 & 3 & 10 \\ 12 & 9 & 0 & 0 & 12 & 9 & 0 & 0 \\ 13 & 3 & 0 & 0 & 12 & 9 & 0 & 0 \\ 13 & 3 & 0 & 0 & 12 & 9 & 0 & 0 \\ 13 & 9 & 0 & 0 & 0 & 13 & 3 & 0 & 0 \\ 13 & 9 & 0 & 0 & 0 & 13 & 9 & 0 & 0 \\ 11 & 6 & 2 & 2 & 11 & 2 & 3 & 0 & 0 \\ 12 & 0 & 14 & 6 & 8 & 0 & 12 & 0 \\ 80 & 0 & 100 & 0 & 13 & 0 & 15 & 0 \\ 12 & 0 & 14 & 6 & 8 & 0 & 12 & 0 \\ 80 & 0 & 100 & 0 & 13 & 0 & 15 & 0 \\ 12 & 0 & 14 & 6 & 8 & 0 & 12 & 0 \\ 80 & 0 & 100 & 0 & 80 & 0 & 100 & 0 \\ 0 & 11 & 1 & 1 & 0 & 0 & 11 & 1 & 0 \\ 18 & 0 & 19 & 0 & 18 & 0 & 19 & 0 \\ 55 & 0 & 65 & 0 & 55 & 0 & 65 & 0 & 65 \\ 0 & 8 & 1 & 3 & 0 & 8 & 1 & 3 \\ 0 & 22 & 0 & 44 & 0 & 20 & 0 & 30 & 0 \\ 22 & 6 & 2 & 9 & 2 & 6 & 2 & 9 & 9 \\ 1 & 6 & 1 & 7 & 1 & 5 & 1 & 7 \\ 70 & 0 & 180 & 0 & 100 & 0 & 130 & 0 \\ 0 & 1 & 1 & 0 & 1 & 1 & 6 & 1 & 1 \\ 0 & 0 & 2 & 10 & 1 & 1 & 1 & 0 \\ 0 & 1 & 1 & 0 & 1 & 1 & 1 & 0 \\ 1 & 1 & 0 & 1 & 1 & 0 & 1 & 1 & 0 \\ 2 & 6 & 2 & 9 & 2 & 6 & 2 & 2 & 9 \\ 1 & 6 & 1 & 1 & 0 & 1 & 1 & 0 & 1 \\ 1 & 0 & 0 & 24 & 0 & 1 & 0 & 12 & 0 & 0 \\ 2 & 6 & 2 & 40 & 0 & 180 & 0 & 130 & 0 & 0 \\ 0 & 10 & 0 & 30 & 0 & 20 & 0 & 30 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & $	Oils, continued:— SPERM BODY. per tun COD WHALE, Soutb Sea, pale yellow " brown " Bast India, Fish " OLIVE, Galipoli. per ton Gioja. " Levant " Mogador " Spanish " Sicily. " Cocoanut, Cocbin " Ceylon " Mauritius. " Madras " PALM, fine LINSEED. English, pale brown Foreign, pale brown Foreign, pale brown COTTONSEED LARD TALLOW  TURPENTINE, American per cwt. PETROLEUM, refined per gall. SEEDS. CANARY per qr. CARAWAY, English per cwt. Germau, &c. COBIANDER HEMP per qr. LINSEED, English. " Black Sea & Azof " Calcutta " Bombay " St. Petersburg " Mustard, brown per bshl. white " POPPY, East India per qr.  S PICES. CASSIA LIGNEA per cwt. Vera " Burls " CINNAMON, Ceylon: 1st quality per lb. 2nd do " 3rd do " Tellicherry " Chips " CLOVES, Penang " Amboyna " Zanzibar " Candand " Candand inferior " Chort to good " African " Bengal " Malbar " Cochin " PEPPER, Black, Malabar per lb. Singapore " Whate " Cochin " PEPPER, Black, Malabar per lb. Singapore " Whate " Cochin " PEPPER, Black, Malabar per lb. Singapore " Whate " Cochin " PEPPER, Black, Malabar per lb. Singapore " Whate " Cochin " PEPPER, Black, Malabar per lb. Singapore " Whate " Cochin " PEPPER, Black, Malabar per lb. Singapore " Whate " Cochin " PEPPER, Black, Malabar per lb. Singapore " Whate " Cochin " PEPPER, Black, Malabar per lb. Singapore " Whate " Cochin " PEPPER, Black per lb. Silver " Mace, 1st quality " 2nd and inferior " NUTMEGS, 78 to 60 lbs. " 90 80 " 132 95 " PIMENTA  VARIOUS PRODUCTS COUHINEAL — Honduras, black per lb. Silver " Mexican, black " Per cut. Ver cu	31   0	30 5 0 0 0 0 0 0 27 0 0 60 0 0 28 0 3. d 35 0 0 0 68 0 10 18 0 18 0 29 0 49 0 49 0 49 0 49 0 49 0 49 0 49 0 4
KINO per cwt. KOWRIE, Sorts "," selected "," MAST.C, picked per lb. MYRRH, good and fine per cwt. ordinary to fair ", OLIBANUM, p. drop ", amber & yellow ", SENEGAL "," SANDARAC ","	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	INDIGO, Finest Bengal , Guatemala Flores SOAP, Casvile per cwt. SOY, China per gall. TERNA JAPONICA— Gambier per cwt. Free cubes ; Cutch WAX, BEES, English ; Jamaica. ;	7 2 7 8 6 9 7 0 23 0 0 0 2 0 0 0 17 6 17 9 24 9 25 6 19 0 35 0 £0 6 £0 0	7 0 6 9 28 0 1 11 17 6 24 3 13 0 £0 0
CHELLAC, Orange " Liver " THUS " TRAGACANTH, leaf ", in sorts "  OILS. SEAL, pale per tun yellow to tinged brown ", SPERM" ",	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	East India " VEGETABLE, Japan " WOOD, DYE, Bar per ton Brazil " Cam " Fustic, Cuba " Jamaica " Logwood, Campeachy " Jamaica " LIMA, first pile " HED SANDARS "	5 15 6 10 2 9 2 11 4 10 4 15 12 0 40 0 15 0 21 0 0 0 0 0 C 5 0 5 5 7 0 8 19 6 10 6 15 11 0 12 0 5 15 5 17/6	5 15 2 11 4 5 12 0 15 0 0 0 5 0 7 0 6 10 11 0 5 17/6
,		,, (	,	,



J. F. (23/197) favours us with the following:—Some of your correspondents inquire for recipes for Perry's pills and washing liquor. [1] send the enclosed. The formula for Perry's pills was made up by a wholesale house that the writer was employed in 30 years ago. It used to be ordered 10 and 20 batches at a time, and sent in separate parcels ready for rolling. The washing liquor was largely sold in Nottingham and neighbourhood.—J. F.

#### PERRY'S PURIFYING PILLS.

Antim. sulph. præcip	••	• •		 3 oz.
Pure gum guaiacum				 3 oz.
Calomel	• •		• •	 2 oz. 2 dr. Dj.
Pil. hydrarg		••		 4 oz.
Pulv. glycyrrh			• •	 6 oz.
Made into a mass with syrup.				

#### AMMONIA WASHING LIQUOR

Made and sold in Nottingham 40 years ago, when the writer was an apprentice.

Water	• •			• •	• •		6 galls.
White soap							1 lb.
Pearl ash	• •	••	••	••	••	••	2 oz.

Dissolve by boiling, and when new-milk warm ald

Liq. ammoniæ, sp. gr. 960 [no quantity mentioned].

This was sold retail 4d. per lb.

#### A REVIEW REVIEWED.

#### TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—In common fairness to myself I thiuk that you should allow me to answer the nucalled-for remarks made by your critic upon my little "Vade Mecum for Medical Studeuts."

He expresses surprise that the atomic weights are termed equivalents. I make no remark about this, the terms, as all chemists know, heing used synonymously.

As regards his next objectiou, he it remembered that I have written the book for medical students, men who regard chemistry as dry and unsavoury, and I have purposely omitted a large amount of theory. I have rendered the subject as light and as c'ear as I could.

I now come to his final objection: he does not like tension of aqueons vapour being regarded as the power of water to rise into vapour. I am reminded of a little passage in Roscoc's "Chemistry" (page 40), which runs thus:—

"This power of water to rise in vapour at all temperatures is called the elastic force or tension of aqueous vapour."

I have made a mistake in very good company, at all events. I did not choose to occupy space with useless splitting of straws, and consider the medical student has quite enough to do without such matter.

I consider your friend's criticism unfair and, after reading the preface, out of order.

106 Leadenhall Street, London, E.C. July 20, 1881. Yours very truly, GEORGE JONES.

56/197. Sale of Quinine Wine.—Messrs. Leonard & Co., Bristol, have had a correspondence with the Board of Inland Revenue, in which they have asked that they might sell a certain kind of quinine wine, not B.P., without a licence and without a stamp. This cannot he grauted nuless a special Act of Parliament be obtained, and our correspondents suggest that this offers useful occupation for our Associatiou. We should hardly think the Association will think so. The sale of alcoholic drinks requires a licence, but the Board of Inland Revenue make a special exemption in the case of orange quinine wine; but they stipulate that such wine shall he really B.P. It cannot reasonably be expected that other preparatious should be equally exempted merely because their makers consider them as good as or hetter than the Pbarmacopæia article. But such products (not B.P.) may be sold by chemists without a licence if hearing the proper patent medicine stamp, so that there cannot be much of a grievance involved.

#### MR. SCHACHT'S SCHEME.

#### TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

I SIR,—I trust my fellow-chemists will strongly support Mr. Schacht's proposal. As far as I understand it, he desires to confine, practically, the sale and the dispen ing of drugs to the registered chemist. At the same time he desires to raise the standard of pharmacentical education to that required by the French pharmacy laws. We all know that the present chemists' calling is hecoming less and less remunerative, because it is cut to hits by stores, and chemists' apprentices who have failed to pars their exam'nations but who do not fail to open shops and sell everything kept

by the chemist—except poisons. If a chemist is not allowed to take a youth as apprentice until he has passed his Preliminary, many chemists will still take hoys to learn the business without binding them. My young man says "that he would not object to passing a higher examination than is now necessary, provided he saw some remuneration for his trouble at the end of it. There is none at present." This is, I have no doubt, the view of hundreds of other apprentices. In this large town, out of scores of apprentices who have served their time during the past ten years, I cannot recall more than four or five who have passed even their Preliminary. Several of them have, however, opened shops here, and I know several others who will do so as soon as they have served their time. One of these tells me that he can do just as much business without passing as if he had passed. Another has just told me he has had several offers of apprentices, though it is perfectly well known that he is not a registered chemist.

The only method of making the calling worth following is Mr. Schacht's proposal.

Yours obediently,

A CHEMIST (11/196).

[Before chemists generally commit themselves to such cordial endorsement of Mr. Schacht's proposal as is expressed by this correspondent, they would do well to consider coolly what sort of chance there is that the representatives of medical men would agree to a law preventing any of them from selling or dispensing drugs, and also what chance there is that Parliament would so scriously infringe the liberty of the subject as to pass such a law. Obemists are not strong enough to mould medical legislation to just such form as they would like it to assume. For ourselves we do not believe that either medical men or the legislature would entertain the idea of such an Act of Parliament for one instant. And possibly "A Chemist's" enthusiasm for Mr. Schacht's scheme would cool down somewbat if that attractive feature were left out of it.—ED, C. & D, 1

A.B. (1/198.)—Sale of Small Quantities of Spirit.—Just a year ago we published correspondence between ourselves and the Board of Iuland Revenue, from which it appeared that though the sale of any quantity of spirit by an unlicensed person is not authorised by law, the Commissioners, "having regard to the difficulty which would otherwise be experienced by medical and scientific gentlemen in obtaining alcohol for purposes of medical or scientific research, do not interfere with the sale by chemists to such persons of small quantities not exceeding 8 oz. at a time." Sales of methylated spirits in any quantity may only be made by licensed persons. But licenses are granted at 10s. per annum (from October 1 of any year) to any person not dealing in wines, spirits, or British wines.

H. S. (17/55).—Any person whose name appears on the Dental Register may claim exemption from jury service. The claim should be made when the jury lists are published in September, when it is possible for any person to see if his name has been included. If exemption be not claimed, then a dentist might, we helieve, be required to serve if summoned. Your query must have been accidentally overlooked previously.

#### POST OFFICE AGITATION.

#### TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Sir,—I cannot agree with your statement in foot note to letter that appeared under above heading in last issue, as I do not know of any tax out of which Post Office officials are paid; but I am quite willing to comply with the suggestion that the public should know what sub-postmasters have to do, and what they get for it, for I presume my case to be a fair sample of the generality.

I have to provide offic room, string, wax, light, and a window. To keep office open from 7 a.M. to 8 p.M. (13 hours), during which time I have to he present, or provide an efficient substitute, for the sale of stamps, the granting of liceles, the issuing of postal and money orders, and the transaction of telegraph husiness. I despatch one mail and receive two daily, when I have to stamp letters for my own place and several villages round, comprising a population of over 4,000. On Sundays I have to be out duty from 7 till 10 in the morning, a short time in the afternoon to receive letters brought in hy rural messengers, and in the evening for the despatch of a mail, so that even on Sundays I cannot venture far; and, if I require leave of absence, even for one night, I must apply to my superior officer.

I issue in a year ahout 1,200 money orders, and pay about as many, grant 200 licences, register 600 letters, sell 2001. worth of stamps (quite a fourth of that amount in single stamp-), and have about 800 telegrams through my hands. Have to seud daily a money order, a savings hank, a telegraph, and a cash account, and to fill in time and letter hills, to send weekly to the Inland Revenue officer of the district a list of licences granted; also to make corrections in the lists of money order and telegraph offices, both English and foreign, and in the lists of newspapers, news clubs, &c.; and monthly to send a detailed account of stock in hand. In addition to this I have to supply to applicants forms for administration and enlistment, &c., to make inquiries and to answer official letters upon numerous subjecte, and to look after subordinate officers. I also have to weigh letters and packets, and, owing to the inability of people in rural districts, to write the greater part of order requisitions and telegrams, which in larger places the public generally do for themselves.

And for this, sir, my pay (partly by fixed salary, partly by commission) amounts to 30% per annum. Can any private employer get that amount of work for the same pay, saying nothing of the value of window and counter room, and the cost of pens, ink, wax, string, &c.

The pay of a sub-postmaster, &c., is very inadequate compared with head postmaster, for the first has to give a great part of his time, and the latter can hut give all his, although his pay averages ten times as much.

I think that at least one week's holiday a year should be allowed to a sub-postmaster, and a competent substitute found by the authorities.

Many take the office under the impres-ion that it brings custom, but I find it cuts both ways, as many customers come at mail times, when I have least time to attend to them.

#### I am, sir, yours ohediently,

Sub-Postmaster (47/195).

[After this information we can only regret that our influence with the Postmaster General is not great enough to improve the position of sub-postmasters. Their claims certainly seem as well-founded as those of the geuteel clerks of St. Martin's-le-Grand. We are glad to publish this explanation of the duties of an office which we know is sometimes coveted in country places, but we do not think it will be useful to print any more letters on the subject.—Ed. C. & D.]

Washing Liquor.—Viridis, Hull (29/197), kindly supplies the following formula, sold by his predecessor in that town:—

```
      Yellow soap
      ...
      ...
      ...
      3 oz.

      Water
      ...
      ...
      ...
      2 gallons

      Liq. ammon, fort.
      ...
      ...
      8 oz.
```

Boil the water with the soap till dissolved, and, when cool, add the ammonia.

An Apprentice (6/197).—The proper pronunciation of the word "pharmaceutical" has often been discussed in Law Courts and elsewhere. The balance of opinion and practice is, no doubt, in favour of the soft c. Pharmakeutical sounds somewhat pedantic, and does not correspond with the other words derived from pharm kon, nor with the usual custom in the English language, which is to sound the c soft before E, I, and Y, regardless of the original.

E.S.V. (46/196).—The German prescription sent by you gives quantities in parts by weight, the metric system being used. The prescription runs:—Sulph. lot., 60 grammes (2 oz. 50 grains); camphor, 37 centigrammes (nearly 6 grains); and water, 480 grammes (about 17 oz). The figure "1-20" refers to the price charged, 1 mark 20 pfennige = 1s.  $2\frac{1}{2}d$ . The directions "S. Aüsserlich" = for external application.

29/196. Apprenticeship.—An old subscriber asks whether, in selling his husiness, the master can transfer any apprentice to the new-comer, or elsewhere; or, is it a uccessity for the youth to go with the master to his future place of business? Can the master get rid of the youth by paying any other chemist to take charge and instruct, &c.? This question was discussed in our "Correspondence" of June and July last year, from the apprentices' side. It then appeared that, in the absence of any special provision, the apprentice is bound to follow his master, if required. Conversely, we presume, the master is bound to take the apprentice with him, if required. Clearly, the master having contracted to teach the youth his business cannot, at his own pleasure only, hand him over to some one else.

Viridis. (29/197.)—White Unguentum—A white-lead ointment (3j. of dry white lead in fine powder to 3j. lard) is sold for this in some parts of the country, or sometimes the old ung. plumbi co. of the London Pharmacopæia.

Peroxide of Hydrogen.-An article on this substance in our February number (p. 57) will give you information.

195/68. Hot-water Pipes.—Glycerine is commonly put into gasmeters to prevent freezing in winter, and wou'd doubtless answer equally well for hot-water pipes. Use half a pint to εach gallon of water. The commoner grades will of course serve the purpose.

Anerley. (195/46).—Potassium Permanganate Stains on linen can be removed by a judicious application of weak sulphuric acid, washing the fabric very earefully afterwards.

Spathula (59/197).—Perfuming Programmes, &e.—This may be done by keeping the programmes for some time in a strong sachet-powder; or more effectually, though at greater expense, in the following manner:— Steep chamois-leather for six hours in a mixture of equal parts of sandal otto, oil of rose gerauium, and saturated tincture of benzoin. Then press off the superfluous liquid, and let the leather dry for several weeks until it gives no greasy stain on touching. This will communicate perfume to writing-paper, but it will be still more effective if it is further dressed with a paste of musk, orris, and tragaeanth mueilage. Skins so prepared are practically inexhau tible. The perfumes used may be varied according to fancy.

197/68. Vera.—You will find Cassell's "Family Physician," now being published in monthly parts, an excellent book for your purpose. There is a "Book of Medical Information and Advice" by Dr. Warburton Begbie, published by Nelsons at 2s.6d., which is very good as far as it goes.

199/8. J. F. asks if Eggor or Bradbury sheep-dip contains any of the poisons in the poison schedule. He had better inquire of the makers.

198/43. J. T. D. asks whether a person, not being a registered chemist and druggist, can legally use the words "drug store" as describing his business; as, for example, "Smith's Drug Store." The Act of Parliament only prohibits unregistered persons from using the title of "Chemist and Druggist," or "Chemist," or "Druggist." Smith, however, might not sell any of the scheduled poisons in his drug store.

198/34. Inquirer.—As you are not registered you cannot use the title **Dentist**, or any other title implying that you are registered under the Dentists' Act. You may extract teeth and perform any dental operation you can persuade people to submit to, but if they refuse to pay you cannot recover the money in any Court. The only way now open to you to obtain registration is to go through the regular curriculum of study, and pass the usual examinations. Teme's "Dental Surgery" and Hunter's "Mechanical Dentistry" are good works.

Faesimileograph.—It is evident that a facsimileograph for use in India must not melt at the highest temperature there met with in the shade. The graph can, doubtless, be made transparent by omitting the permanent white and using good qualities of gelatine and glycerine. Your best plan will be to liquefy some good gelatine in a water bath with the smallest needful quantity of glycerine, and allow it to cool carefully, noting, by means of a thermometer, the temperature at which it solidifies. You can then add glycerine cautiously to reduce the point of solidification to atout 140° F. If water is used the "graph" will dry up in India.

#### THE CHINESE OPIUM PROBLEM.

#### TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—In a late number of the Shèn Pao, I find published a memorial from Tso-Tsung-Tang about opium. He complains greatly concerning the falling-off of Government revenue, owing to the negligence of the Wei-yuans. He deplores the increasing taste for the consumption of the drng. He proposes that, the lekin tax should be made heavier and heavier, and to prevent the Government being defrauded, advises the tax should be, for foreign opium 150 taels per 100 catties; the native drug being cheaper can well afford to pay the same rate. He suggests that the Northern and Southern Superintendeuts of Trade, the Tartar-General of Foothow-Foo, the Hippo of Canton, and the Viceroys and Governors of Provinces should be consulted, as it is bigh time strenuous measures were adopted.

After a careful study of this "burning question," and from actual observance in the country, I am inclined to thick that the use of this drug is so ingrained into the people, and that the network of interested officials is so strong, that all the efforts of a well-intended Government, together with those of Tso-Tsung-Tang, and such-like visionaries, will prove futile.

Yours obediently,

Kilburn, August 10, 1881.

Th. H. BATEMAN, Ph.C.

 $197/40.\ W.\ C.\ H.$  wishes to know of a reliable work on the treatment of the di-eases of  $\bf Poultry.$ 

198/20. Constant Reader.—Camphor Roll or Camphor Ball.—The following formula is a good one:—

					Ounce
White wax	••	 	• •		2
Almond oil		 			10
Spermaceti		 		• •	8
Camphor pow	dered	 			5

Melt the fats together, allow the mass to cool without stirring, adding the camphor in time to get it completely dissolved, and pour into the cases when nearly cold.

198/36. Country Chemist.—Cattle Foods are commonly made of oatmeal, with aromatics such as caraway, coriander, cinnamon, aniseed, pimento, ginger and liquorice powders in various proportions. We have heard of powdered elm bark being used as an ingrelient.

198/42. Chemicus Mejor.—Vinum Pepsinæ.—The following is the best known fermula:—100 parts of the peptic mucus straped from the stomach of a hog or the rennet of an ox are mixed with 50 parts each of glycerine and water, 1,000 parts of good white wine, and 5 parts of hydrechloric acid, macerated for three days at or below 26° C. (68° F), and filtered. The liquid is of a clear yellow colour, and has a vinous cdour and slightly acid taste.

197/30. Homœopathic Tincture of Podophyllin.—The British Homæopathic Pharmacopæia mentions only a trituration of podophyllin. According to the general rules laid down therein, the tincture of podophyllin would he made by macerating 1 part of podophyllin in 10 parts of rectified spirit.

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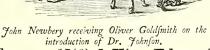
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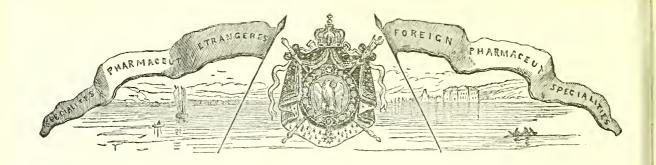
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2/9 Ditto ditto21)	4/6 ,, Mathey Caylus 22/	2/3Guyot's Goudron17/	3/6 ,, Sirop ,, 27/
3/6Aubergier's Syrup27/	4/6 Chassaing's Wine36/	11/Laville's Gout Tincture 84/	4/0Racahont
1/9 " Pâté	2/9 , Pills25/	11/ ,, Pills84/	5/0Reynal's Bougies42/
6/6Bay Rum54/		2/3Papier Fayard	
3/6 Ditto27/	4/6, ,, Dragées 45/	1/1½ Ditto6/6	4/6 ,, Capsules34/
2/0Belloc's Charcoal16/	2/9Dusart's Syrups27/	4/6Papier Fruneau27/	8/0 ,, Syrup72/; 42/; 26/
1/9 ,, Lozenges 13/	4/6 ,, Wines36/	2/3 Ditto15/	2/0Star Paper
4/6Blancard's Pills30/	5/0Eau Botot42/	1/9Pâté Aubergier13/	2/9Tamar Indien21/
2/9 Ditto18/		1/9 ,, de Georgé	
4/6. Brou's Injection24/	2/3. Espic's Cigarettes15/	$1/1\frac{1}{2}$ ,, Ditto	1/9 Ditto13/
4/6Bugeaud's Winc36/	2/9Flon's Syrup23/	1/9 ,, de Berthé	4/6 Veloutine (White and Rose) 39/
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2/6 Ditto17/		1/9, Regnauld	
4/6Candé's (Lait Antéphilique) 40/	2/3 ,, ,, Iron, 15/	7/0Pierlot's Valerian54/	4/6Valentine's Meat Juice40/
4/6Capsules Bromide of Camph.45/	2/3 ,, Soda15/	2/9 Rabuteau's Dragées Ferrug.27/	4/6Vin Mariani42/
4/6 ,, Matico30/			

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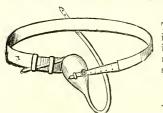
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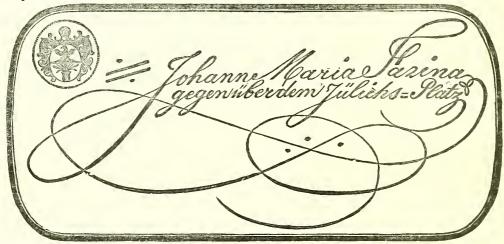


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GLYCERINE	form most objectionable) S.G. 1260, double distilled, brilliantly white, odourless; also lower S.G. and qualities	Free from lime, chlorides, metals; will stand severest chemical tests.									
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POTASS, BROMIDE	Fine white dry regular crystals	Perfectly free from iodide, and the most free from chloride.									
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Transparent brown liquid, purified by Dialysis

White, sweet, odourless powder ...

Free from all saline matter present in the

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May be prescribed with most substances compatible with Acids. In 4 oz., 8 oz., and 16 oz. Bottles, and in Bulk.

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FREE PHOSPHORUS, in Simple and Compound Forms, since introduced by us ten years ago, has been prescribed by some of the most eminent Medical Men in Europe, America, and the Colonies, and has been found marvellously effective in Nenralgia, Diseases of the Brain, Nerve, and Museles, Padigestion, Depression, Loss of Power and Memory, Consumption, and Paralysis; in fact, never has a medicine in previous history been employed with SUCH SIGNAL SUCCESS for so many painful diseases.

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Phosph, pur. gr. 1-30th in each pill.	Phosph. pur. gr. 1-50th Ferrum Redact. ,, iv. In each pill.	Phosph. pur. gr. 1-50th Ext. Nue. Vom. Ale. gr. 1 In each
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No. 214.	Phosph. pur. gr. 1-30th \ In each	Phosph. pur. gr. 1-30th \ In each
Phosph. pur. gr. 1-50th in each pill.	Ferrum Redact. ,, iij. \ \ \ pill. atly put up in Bottles, containing three, six, and two	Ext. Nue. Vom. Ale. gr. 1
WHOLESALE PRICES, 18s., 27s., and 4		s, 2s. 6d., 3s. 6d., and 5s. each bottle.
No. 503.	No. 504.	No. 515.
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Zinei Valer ", j. ) pill.	Zinei Valer ,, j. Ferri Sulph ,, j. pill.	Zinei Valer ,, j. } pill.
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Quiniæ Sulph. ,, ss. $pill$ .	Morphiæ Mur. ,, 1-10th Zinei Valer. , , j.	Quiniæ Sulph. ,, \frac{1}{2}  In cach  Pill.
No. 219.		Aloyn ,, 1/8
Phosph. pur. gr. 1-50th Ferrum Redact. ,, iij.	No. 516.	No. 518.
Quiniæ Sulph. ,, ss. [ pill.	Phosph. pur. gr. 1-30th Aloïn , $\frac{1}{8}$ $In \ each$	Phosph. pur. gr. 1-50th Ext. Nue. Vom. Ale.,, †
Stryehniæ ,, 1-50th	Ext. Nue. Vom. Ale.,, 1	Ext. Aloes Aquos ,, ½
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Phosphorus pur gr. 1	50th) Phosphorus pu	-
	00th In each pill. Ferri Sulph.	, j.
, ,	1-8th)   Quiniæ Sulph neatly put up in Bottles, containing three, six, and ty	· · · · · · ,, SS. J
WHOLESALE PRICES, 30s., 42s., and		3s. 6d., 5s., and 7s. 6d. each bottle.
No. 212. Phosph. pur. gr. 1-59th	No. 221.	No. 430.
Quiniæ Sulph. ,, j.  In each pill.	Phosph. pur. gr. 1-50th	Phosph. pur. gr. 1-30th
No. 215.	Ex. Nue. Vom. Ale.,, \frac{1}{3}  \frac{\ln each}{\text{pill.}}	Quiniæ Sulph. ,, j. In each
Phosph. pur. gr. 1-30th Quiniæ Sulph. ", j. In each pill.	Quiniæ Sulph. "j.	Ferri Sulph. ", j. Ex. Nue. Vom. Ale. ", }
The above forms are r	eatly put up in Bottles, containing three, six, and tw	
WHOLESALE PRICES, 32s., 46s., and	78s. per dozen bottles. RETAIL PRICES, 3s.	. 9d., 5s. 6d., and 8s. 6d. each bottle.
IMPORTANT CAUTIONBew	are of Imitations.	
	Pills containing Quinine fluctuate according to the	variation in the price of that article.
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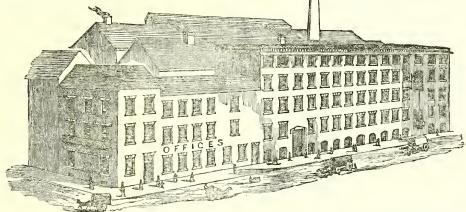
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#### INDEX TO ADVERTISEMENTS,

See pages 33\*, 34\*.

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Is a Pure Solution of Phosphorus, pleasant in flavour and appearance, being a perfectly Bright Liquor, combined with Vegetable Alkaloids, possessing marvellous Curative Properties, the Wonder of Modern Chemistry, free from all Dangerously Active Drugs; innocent in its action, and pronounced by the Highest Medical Authority to be unequalled for its power in replenishing and elaborating the Vi ality of the Body; by its supplying all the essential constituents of the Blood, Brain, and Nerve Substance; and for developing all the Powers and Functions of the System to the highest degree, thereby checking all Wasting of the Vital Fluid, and the more Exhausting Wear and Tear of Life resulting from Over-taxed Energies of Body or Mind, maintaining that Buoyant Energy of the Brain, Nervous, and Muscular Systems, which renders the Mind Cheerful, Happy, Brilliant, and Energetic.

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The Genuine Condy's Fluid of proper composition and strength always contained, in addition to its disinfecting properties, certain antiseptic salts, greatly enhancing its value when used. This is only manufactured by the undersigned.

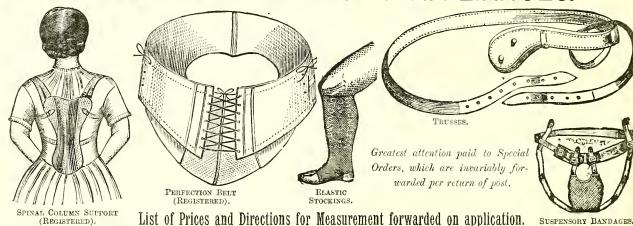
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When Chemists order my Disinfecting Fluid they should see that they get the proper article.

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Turns out One Pound of Pill Mass in perfect Pipes in 3 Minutes.

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This little Machine is worked with the ordinary Counter Pill Machine, and as no weighing or rolling out of the mass is required, the saving of time is very great and manifest. It may be inspected, and its practical working shown, at Mr. CASSIE'S, 49 Newgate Street, London.

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## Dr. J. COLLIS BROWNE'S

ORIGINAL ONLY THUE AND GENUINE.

#### IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD, and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that 'Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepre-

sentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the Times, November 14th 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the Medical Times, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published

by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation

nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

> From SYMES & Co., Pharmaceutical Chemists, Medical Hall, Simla, January 5, 1880.

To J. T. DAVENPORT, Esq., 33 Great Russell Street, Bloomsbury, London.

Dear Sir,—Have the goodness to furnish us with your best quotations for Dr. J. Collis Browne's Chlorodyne, as, being large buyers, we would much prefer doing business with you direct than through the wholesale houses. We embrace this opportunity of congratulating you upon the wide-spread reputation this justly-esteemed medicine has earned for itself, not only in Hindostan, but all over the East. As a remedy of general utility, we much question whether a better is imported into the country, and we shall be glad to hear of its finding a place in every Anglo-Indian home. The other brands, we are happy to say, are now relegated to the native bazaars, and, judging from their sale, we fancy their sojourn there will be but evanescent. We could multiply instances ad infinitum of the extraordinary efficacy of Dr. Collis Browne's Chlorodyne in Diarrhea and Dysentery, Spasms, Cramps, Neuralgia, the Vomiting of Pregnancy, and as a general sedative, that have occurred under our personal observation during many years. In Choleraic Diarrhea, and even in the more terrible forms of Cholera itself, we have witnessed its surprisingly controlling power. We have never used, any other form of this medicine than Callis Browne's from a time conviction power. We have never used any other form of this medicine than Collis Browne's, from a firm conviction that it is decidedly the best, and also from a sense of duty we owe to the profession and the public, as we are of opinion that the substitution of any other than Collis Browne's is a deliberate breach of faith on the part of the chemist to prescriber and patient alike.

We are, Sir, faithfully yours. SYMES & Co., Members of the Pharm. Society of Great Britain, His Excellency the Viceroy's Chemists.

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IN EUROPE, as in America, the subscriber finds himself obliged to combat imitations of his Syrup of

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To prevent errors, prescriptions should only be entrusted to respectable houses, as no respectable Chemist will make or vend an imitation article. The "trustworthy" only are respectable: he who seeks to profit through the reputation, the industry, or the property of another is not trustworthy; if such be an Apothecary, his drugs, chemicals, medicines, and, above all, his dispensing should not be trusted.

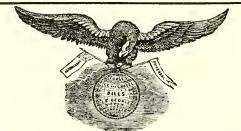
"Fellows' Hypophosphites" was invented by the subscriber, and has been th roughly tested for over fitteen years. Enormons expenditures and a high character have won for it a world-wide distribution, which it is our determination to maintain by a loyal adherence to characteristic uniformity, care, and fidelity of its manufacture. As large a margin of profit is allowed as is consistent with its costly components, and a liberal spirit is ever extended to the Trade. Yet there are persons calling themselves "brother Chemists" who nublnshingly and impertinently copy our prescription, and advertise it as their property, thus sacrificing their respectability in the hope of obtaining more profit, while their product falls far short of the original.

The names of these persons are withheld for the present, in the hope that no further exposure will be necessary.

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P.S.—SAFEGUARDS AGAINST SUBSTITUTION.—The Fellows' Hypophosphites is dispensed in 1 lb. and 1-lb. bott'es—the address. Fellows & Co., St. John, N.B., blown on—the name J. J. Fellows, St. John, N.B., in watermark upon the wrapper; it is hermetically corked, and sealed with crimson gelatine, and covered by a metallic capsule; is heavy, slightly alkaline, pleasantly bitter taste, and deposits a floculent brown precipitate of Hypophosphite of Manganese when left undisturbed for forty-eight hours. Note.—Though this precipitate mars the appearance, its precence has been found imperative to its full remedial effect.



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The Original Preparation, as approved by the Medical Profession on account of its known composition and uniform strength.

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## LLOROD

As originally introduced by A. P. Towle, and free from stamp duty for dispensing.

4 ozs., 4s.; ½ lb., 5s. 6d.; 1 lb., 10s.

In 1, 2, and 4 lb. Bottles, at 3s. per lb., and 6d. and 1s. Boxes. Foiled, Lined and neatly got up for the counter, 4s. 6d. and 9s. per doz.

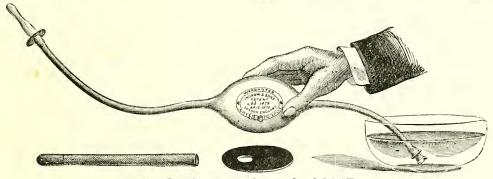
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## INGRAM'S IMPROVED ENEMA APPARATUS

By Royal Letters Patent.

### MADE IN ONE CONTINUOUS PIECE.



#### WARRANTED NOT TO SPLIT.

The following are the advantages we claim for our invention:

1st.-A complete Enema and Syringe Apparatus, without any metallic connections or wire fastenings whatever, thereby avoiding the possibility of leakage.

2nd.—Specially prepared to resist the heat in tropical countries.

3rd.—A perfect apparatus: will not split, become hard, or sticky.

Patented in America, No. 212,939, March 4th, 1879, and in France, No. 126,909, October 11th, 1878.

TO BE OBTAINED OF ALL

CHEMISTS, DRUGGISTS, SURGICAL INSTRUMENT MAKERS and DRUGGISTS' SUNDRIESMEN

TRADE SALMON'S PATENT. MARK.

### SALMON, ODY & CO., 292 Strand, LONDON. PATENT TRUSS MANUFACTURERS.

TRADE SALMON'**S** PATENT. MARK



Fig. 1. Patent Single.

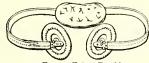
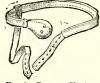


Fig. 2. Patent Double.



Common Single.

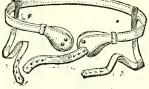


Fig. 4. Common Double.

				TT			CES,	1880			Common	Double.		
Patent Sel	f-Adjusting	g Trusses, Basil and Chamois,	per doz (F	ig. 1), single	£1 10	0 1	Common Circu	lar Trusses.	Basil and	Chamois	per doz	. (Fig. 3), single	£0 18	0
Ditto	ditto	Basil and Moleskin	**	11 11	1 18	0	Ditto	ditto	Basil and	Moleskin	"			ő
Ditto	ditto	Roan and Skiver, Silk Sewn		. 11		0 ]			Basil and		. ,,	(Fig. 4), double	1 10	- 0
Ditto	ditto	Basil and Chamois	,, (F	ig. 2), double		0	Ditto		Basil and		. 11	11 . 11	1 18	0
Ditto	ditto	Basil and Moleskin	17	11 11	3 16		Scrotal Trusses	s, Basil and (	Chamois or	: Moleskin		each, single	0 3	0
Ditto	ditto	Roan and Skiver, Silk Sewn	11	17 19			Ditto	dit		•••				
N.B	-Customers	are invited to order direct from	1 S. O. & C	Co., or to adv	ise their	An	ents to do so, as t	he GENUINE	article car	not be obtain	ned elsew	here, and none a	re of	

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DR.

NKS'S



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excessive drinking, it surpasses all other medicines. Being a Stomachic, no medicine excess it as a remedy for Indigestion, and its attending evils.

As a medicine for exportation DR. HANKS'S NEURALGIA and NERVE MIXTURE claims the attention of Merchants, Shippers, Captains, and Passengers, above all other compounds. Naval and Military Officers, Residents in the Colonies, and Emigrants, far away from doctors, will often find it a source of relief. This celebrated Mixture is pleasant in taste, and its smell is agreeable; its action local and internal; and as it will keep any length of time without decomposing, all sufferers should have it ready for use to arrest these severe diseases at their onset.

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Height. Height. N.M. inches 16/6 Size. 16 ounce 8

Size. Height. N.M. W.M. N.M. 32 ounce 10½ inches 20/ 22/ 22/ 42 ,, 11 ,, 22/ 25/6 26/6 BLUE GLASS. W.M. 26/6 per dozen. 25/6 26/6 30/ 20 ,, 9 ,, 17/6 20/ 21/ 23/ ,, | 42 ,, 11 ,, 22/ 25/0 26/6 30/ ...

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Bradford, Dr., Carluke.
Bray, W., Pollokshields.
Brevis, John, West Hartlepool.
B ccq. P. De Le, Jersev.
Brunton, W. W., South Kensington, London.
Campbell, Dr., Obin.
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Charlesworth & Co., Mancheser.
Cullen & Co., South Norwood, London.
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Fraser, John, Helmsfale.
Gardner, A. W., Auckland, New Zea'and. Henry, J. P., Beltast.
Hume, R., Glasgow.
Irvine, Dr., Pulochry.
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Leiper Dr., Douglas.
Lonsdale, A. W., Rangoon, Burmah,
Macta lan, A. Y., Ediuburgh.

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Mackie, Keith, Paisley,
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Mason, W. D., Grimsby,
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M'Caul, J., & G., Londonderry,
M'Jannet, Dr., Lennoxtown,
M'Kirdy, A., Rotheay,
M'Rae, Alexander, Edinburgh,
Noble, A., Galashiels,
New Medical Hail, Campheltown,
Pattison, II., Co'elann, Sirewsbury,
Pettigrew, J. W., Lenzie.

Bottles:—
Quiray, W. D., Belfast,
Reid, Dr., Aberfeldy,
Rand, E., Wagza, New South Woles
Senior, Harold, Norwood Line, London S. E.
Sibthorpe, S., Wolverhampton,
Smith, Albert, Hiracombe,
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Taylor, W. G., Hungerford,
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All descriptions of Bottles (blue or green tints) used in Medical Trade, Vials and Fancy Jars, &c., used in Perfumery and Druggist Trades, made at Cheapest Rates compatible with best work.

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Strongly Recommended in Asthma, Bronchitis, Consumption, Atrophy, Indigestion, and in Stomach Coughs.

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DRUGGISTS' BOTTLES, for Powders, Pills, Acids, Citrate of Magnesia, and other products supplied by Chemical Manufacturers and Wholesale Druggists.

CASTOR OIL, COD LIVER OIL, AND HAIR OIL BOTTLES of various shapes, plain and fancy, with or without stoppers.

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PERFUME BOTTLES, in different sizes and shapes, suitable for both the Wholesale and Retail Trade.

MINERAL WATER BOTTLES for all kinds of Aërated Drinks, of every shape and colour, suitable either for Corks, or the various Patent Stoppers now in use.

WINE AND SPIRIT BOTTLES, of various shapes and sizes, and in suitable colours. ALE and PORTER Bottles in the dark green colour now so much preferred, both for Corks and Barrett & Elers' Screw Stoppers.

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We ask special attention to our GLASS MEASURES. They are made of the very best quality of glass, and the accuracy of the graduations is verified by Professor Redwood. PRICES (including stamping in accordance with the new Act):-

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Ditto, with brown or black fittings, 46s. per gross.

Above are put one dozen in a wooden box, or can be supplied, each bottle in a cardboard box, neatly labelled, at 6s. per gross extra.

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Requires no constant

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Compared with Steam.

No Heat. No Dirt. No Dust.

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No Smoke.

No Extra Insurance.

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AT SYDNEY HIGHEST AWARDS Nearly 5,000 Ottos now at Work.

for Aerated Water Work, Particularly suitable Drug Grinding, Hoisting, &c.

Special List of Engines Please write for and Testimonials. doing this Work,

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### MACHINE SODA WATER

(HAND POWER).

To make 100 Dozen per Day of highly-charged Gaseous Water,

This Machine is on the continuous-process Bramah principle, has a good size Lead Generator, Copper Gas Holder in oak tub, with internal pipes of block tin; Bramah principle Gun-metal Pump in a frame of iron, with Fly-wheel, Crank, and Handles. Instead of the Gun-metal Cylinder or Condenser, with revolving Agitator and Toothed Gear-wheels, we substitute in this Machine a large Copper Condenser of about four times the size, with our Apparatus fitted to the Copper Condenser. We find the Waters are more highly charged with Carbonic Acid Gas by this method than any other way of saturation, and they are perfectly free from metallic contamination. This Machine is also strongly recommended for filling Syphon Bottles, and, if driven by a Motor (either a Gas, Air, Steam, or Water) Engine, the product is about double.

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THE SCREW STOPPER & BOTTLE, For Ales, Porter, Cider, and Brewed Beer.

The Screw Stoppers can be attached to the necks of the Bottles by a band of wire and a small chain, if preferred; price about 3s. 6d. extra. See Fig. 4.
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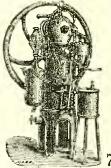
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SODA WATER MACHINE COMPLETE, WITH RACK.

DAVENPORT'S NOZZLE AND STOPPER is the best Patent for utilising old Bottles, and converting them into Patents. No Corks or Wire, and saving entire cost in one season. The New Nickel-plated Nozzle makes this the most attractive Patent in use. Trial allowed. Prices lowered. Send for Samples. New Bottles ready fitted for use now supplied. Catalogues of Soda-Water Machines, Ice-Making Machines, Engines, Boilers, Copper Cylinders, Syphons, Seltzogenes, Filters, &c., and all accessories to the Soda-Water Trade.

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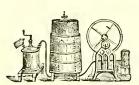
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Also Two Second Awards and Honourable Mention—Five Honours in all.



#### SELTZOGENES.

First introduced by EUGENE GERAUT & Co. in 1853.

3-pint Size, Wire, 13/0; Cane, 13/6 18/0; 5-pint 19/0 30/0; 32/0

8-pint ,, 30/0; ,, 32/0
Strongly silver-plated top, 5/ each extra.
3-pint size, strongly silver-plated, richly decorated porcelain stands, 30/ each; 5-pint size, ditto, ditto, 38/ each;
8-pint size, ditto, ditto, 48/ each.
Our well-known Seltzogenes are improved yearly, and have already stood a public test of upwards of Twenty Years, and are acknowledged as THE VERY BEST.
POWDERS FOR THE ABOVE: -3-pint, per dozen boxes, 22/; 5-pint, ditto, 36/; 8-pint, ditto, 55/.

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Clear or coloured glass, pure ENGLISH BLOCK TIN TOPS, with piston or cap.

per dozen, for quantities of not less than one gross.

25/ per dozen, for less than one gross.

Packing in Cask, 5/ per gross.

The Name marked on the metals free of charge for quantities of not less than one gross.

The Name engraved with Trade Mark, from 1/6 to 2/6

per dozen extra.

1873.

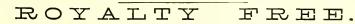
DISCOUNT.

1 & 2 Corporation Buildings, Farringdon Road, London, E.C.



The Stoppers are made in six different sizes—Nos. 1, 2, 3, 4, 5, and 6. Nos. 4, 5, and 6 are most suitable for general use, the Bottles adapted to which having sufficient capacity in the mouth to allow a copious flow of the a liquid, whilst Nos. 1, 2, and 3 are specially made for Bottles which have only a small mouth, thus retarding the flow of the liquid, and causing the evaporation of the carbonic acid gas before the Bottle can be emptied.





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New Stopper.

## "VICTORIA" OFNER MINERAL BITTER-WATER.

THE BEST NATURAL APERIENT.

As a safe, ordinary, and gentle aperient,
In inflammation and congestion,
In rheumatic and gouty disorders,
Against undue tendency to fat,
Against hæmorrhoids,
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During pregnancy and in many female diseases, For habitual constipation,

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The Proprietors of this Natural Spring of Laxative Water are desirous of bringing the leading features before the Medical Profession. The advantages specially claimed are, that it contains a larger amount of valuable active aperient solids than any other bitter water previously in vogue with the public, or prescribed by the faculty, and notwithstanding its rapid action as an aperient, it produces no nuesainess in its effects. It will be seen from the analytical data (below) of eminent Professional Chemists of England and the Continent, that this water contains nearly double the amount of Magnesia found in any other Bitter Water, hence it is cutilled to be distinguished as a "Specific Magnesium Bitter Water."

total in the jobs to the control of				Personner and e		
	E	Analysis of	Special	l Analysis of	. A	nalysis of
]	Prof. 1	H. E. ROSCOE,	Prof. 1	M. BALLO,	Dr.	G. L. ULEX,
1	F.R.S.,	Owens College,	Chen	nist of the	Offic	ial Chemist of
	7/	lanchester.	City	of Budapest	. the C	ity of Hamburg.
MAGNESIUM SULPHATE		32.8107	• •	32.3800		33.60
SODIUM SULPHATE		17.1693	• •	20.9540		19.55
POTASSIUM SULPHATE		0.4407		0.3102		1.28
CALCIUM SULPHATE		2.3304	• •	1.6020		1.33
SODIUM CHLORIDE		1.7708		2.2431		2.28
SODIUM CARBONATE		1.1884	• •	0.4980		2.10
ALUMINA		0.0108		0.0229		0.3
SILICA		0.0587		0.0444		0.6
PHOSPHORIC ACID		Trace		Trace	• •	Trace
			-			
SUMMARY OF TOTAL SOLUBLE	( 3	55.1798		58.0549		60.23
Constituents	ſ		-			
Do. Do. Founi	) ( c	55.7250		58 <b>·156</b>		
DIRECTLY	5		-			
Specific Gravity at 17°C.		1.0534 AT 1	7°R.	1.05362 AT	14°R.	1.055
Re	tail	Prices :- Li	tres.	1/6 per 1	ottle:	Half-Litres

Soluble Constituents and Sulphate of Magnesia in "Victoria Bitter Water," as compared with other Mineral Waters.

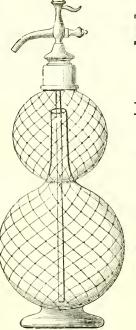
	Sulphate of Magnesia.		
VICTORIA Bitter Water Råkóezy Franz Josef Hunyady László Hunyady János Königsbitterquelle Elisabeth Püllnacr Bitterwasser Friedrichshaller Saidschützer	55·77 53·53 52·29 51·07 41·73 37·55 26·29 32·72 25·29 23·21	32.87 23.06 24.78 24.20 18.44 16.68 8.04 12.12 5.15 10.96	

tetail Prices:-Litres, 1/6 per bottle; Half-Litres, 1/- per bottle.

Cases are free and contain either 25 Litre Bottles or 50 Half-litre Bottles. May be obtained of any Chemist or Patent Medicine Vendor in the United Kingdom.

### THE "VICTORIA" NATURAL BITTERWASSER OF BUDAPEST, HUNGARY.

Wholesale Depot for England and Colonies: -92 & 93 Great Russell Street (corner of Charlotte Street), London, W.C.



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For immediate production of Soda Water, Eau de Vichy, Sparkling Lemonade, and Aerated Wines.

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Sole Inventor and Proprietor of the Article and Name "SELTZOGÈNE,"

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3 pint, wire covered 12s. 0d, each, Liberal 3 pint, cane covered 12s. 6d. Celebrated 5 pint, wire covered 18s. 0d. discount D. Fèvre Seltzogene. 19s. 0d. allowed 5 pint, cane covered ... 8 pint, wire covered 30s. 0d. 12 Seltzogènes, 3 pint size Case and Packing 4s. 0d. net. 5s. 8d. ,, 12 5 ... ,, 9s. 8d. " 8 ,, Celebrated 3 pint, per doz. boxes of 12 charges, 24s. 0d. D. Fèvre Powders 5 36s. 0d. Luberal for the Seltzogènes. 8 60s. 0d. discount 20s. 6d. 3 pint, per doz. boxes of 10 charges, Pure Tartaric Acid and allowed. Bicarbonate of Soda 30s. 6d. in the highest state of perfection. 45s. 2d.

EXTRA:-Taps, Tubes, Valves, Washers, &c.

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### CHEMISTS' AERATED AND MINERAL WATERS ASSOCIATION

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A Delicious Lime Fruit Beverage. Free from a Musty Flavour.



Of Chemists, 5/6 and 8/6 per dozen.

Contains no Iron, no Phosphorus, but FRUIT AND VEGETABLE PRODUCTS ONLY.



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Offices and Factories—45 Gifford Street, and 112 Pembroke Street, Caledonian Road, London; and Harrogate.

### FOREIGN MINERAL WATERS.

FOREIGN LIQUEURS.
FOREIGN WINES.
FOREIGN SPIRITS OF EVERY DESCRIPTION.
ANGOSTURA BITTERS.

APPLY TO

JAMES SMITH & COMPANY, IMPORTERS,
LIVERPOOL: 9 LORD STREET.

FOR SUMMER.

RASPBERRY

STRAWBERRY

LIME FRUIT

BLACK CURRANT

LEMON, ORANGE

In Bottles, 1/9, Half Bottles, 1/-

JARCOMELLE PEAR

PINE APPLE



FOR WINTER.

AROMATIC
BLACK CURRANT
GINGERETTE
GINGER LEMON
PEPPERMINT
CLOVE
WINTER PUNCH
LIME FRUIT
CORDIAL

In Bottles, 1/9, Half Bottles, 1/-

By the simple addition of two table-spoonfuls of these Syrups to a tumblerful of hot or cold water, most wholesome and refreshing drinks are immediately prepared, as pleasant to the taste as they are invigorating to the system. For Gazogenes and the Syphon Soda Water Bottles they are admirably adapted. Put into a tumbler a large spoonful of any of the Syrups, and fill it up with the Gaseous Water. Largely used for flavouring Puddings, Jellies, Custards, and Blanc-Mange, and are specially suitable for the Sick Room, Pic-nics, Weddings, Christmas and Birthday Parties, &c., &c.

Sole Manufacturer—W. BECKETT, Heywood, MANCHESTER.

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THE MOST PERFECT NON-ALCOHOLIC BEVERAGE.

TRADE

(REGISTERED)

SWEET AND DRY.

CONTAINS HYPOPHOSPHITES OF IRON, LIME, SODA, AND POTASH.

In Champagne Pints, retail, 6/6 per dozen.

Champagne Quarts, retail, 10/6 per dozen.

AT THE INTERNATIONAL FOOD EXHIBITION, HELD IN LONDON, OCT., 1880,

The Only Prize Medal for Aerated Beverages was awarded to "VIN SANTÉ."

FEW SELECTED TESTIMONIALS.

Report by H. C. BARTLETT, Esq., Ph.D., F.C.S.—"I have examined with great care the non-alcoholic beverage of Messrs. Morgan, Kempster & Co., known as "Vin Santé." It is admirably prepared as a table tonic, and contains Hypophosphites in the most soluble form, including iron, so as to be well adapted for general use, and I thoroughly appreciate the dietetic excellence of this advance in the chemistry of the subject. I particularly notice the absence of an unpleasant estringent reaction as an aftertaste from the iron, which is objectionable in beverages for habitual table use, both as regards flavour and as being medicinal in common use. Avoiding this obvious defect in some of the same class of beverages, the "Vin Santé" may be recommended as a pleasant, refreshing, and gently stimulating beverage, which well replaces effervescent wines in many cases."

LIVERPOOL ROYAL INFIRMARY, SCHOOL OF MEDICINE, Nov. 6, 1880.

Dear Sirs,—I have no hesitation in saying that your "Vin Santé" is the best beverage of its class which I have yet seen, Yours,

J. CAMPBELL BROWN, D.Se., F.C.S., &c., and City Analyst.

Unbridge House, Carnarvon, Sept. 17, 1880.

Gentlemen, -Your "Vin Santé" is very agreeable to the taste, and, containing the tonics named in assimilable forms, it cannot but be a welcome beverage to the constantly increasing number of persons that have for ever lost faith in all kinds of intoxicating drinks as common beverage. Hoping it will be a boon to the public, and a successful enterprise for yourselves, I am, gentlemen, yours faithfully, M. DAVIES, L.R.C.P.E. Exam., &c.

CHESTER, August 18, 1880. Your "Vin Santé" is a non-alcoholic beverage, refreshing and agreeable, a gentle tonic, and good for dyspepsia.

50 Rodney Street, Liverpool, July 26, 1880. Dear Sir,—I beg to thank you for so kindly sending me a few bottles of your "Vin Santé." It is very agreeable and refreshing, and an important addition to our non-alcoholic beverages. I am sure that I shall find it very useful in many cases where less agreeable tonics are either refused or excite nausea. With an equal part of claret, it forms a most suitable beverage for certain invalids. With kind regards, faithfully yours, J. W. HOWIE, M.D.

119 SHAW STREET, LIVERPOOL, May 18, 1880.

DEAR SIRS,—Your "Vin Santé" is exceedingly pleasant and invigorating, and I can confidently recommend its use as a light non-alcoholic dinner beverage. I am, yours truly,

BENJAMIN BLOWER, M.R.C.S.

Manufactured by the VIN-SANTE AND NON-ALCOHOLIC BEVERAGE CO., LIMITED, Liverpool and Manchester. For Wholesale Terms, see Price Lists of the undernamed SOLE WHOLESALE AGENTS,

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H. SUGDEN EVANS & CO., Montreal, Canada, and Rouse's Point, New York.

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THE PUREST IN ENGLAND.

R. M. MILLS & CO.,

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Manufacture all kinds of AERATED WATERS from this Celebrated Artesian Spring.

DR. ANDERSON'S AERATED "TISSUE PHOSPHATE" TONIC WATER,

An Aerated Tonic Beverage, containing all the Mineral Aliments of Nutrition, and assisting Digestion in most marvellous degree.

Pure, Agreeable, Pleasing, and Invigorating Beverage, perfectly free from all Contamination.

Retail Price 4/6 and 8/ per doz. Sold by their Agents throughout England. Price, with Descriptive Pamphlet, upon application.

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SODA WATER.
SELTZER.
POTASH.
LEMONADE.
LITHIA, &c.

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W. A. ROSS, the Original Patentee and Maker of The Celebrated Belfast Ginger Ale, cautions the Public that the "GENUINE" can only be had at

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18s. per Dozen Bottles;

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Duty paid in London, or f.o.b. Export Ship there.

I have appointed CHARLES KINLOCH & CO., Backechurch Lane, London, E., SOLE AGENTS for England, Germany, France, Italy, Russia, the English Colonies, and America, for the Sale of my Wine.

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In Champagne Pints.
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A CERTIFICATE OF MERIT, for superiority of quality, was awarded to Jewsbury & Brown at the Exhibition of

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Kinmonds Phosphoretta,

A DELICIOUS, SPARKLING BEVERAGE FOR DAILY USE, EXHILARATING YET NON-ALCOHOLIC. Cases and Bottles are charged separately, and allowed for in FULL when returned.

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## APNEUMATIC

GINGER ALE (Aromatic).



MINERAL WATERS

ORANGE CHAMPAGNE.

GUARANTEED FREE FROM ALL IMPURITIES.

Our terms are more favourable for a family trade than those of any first-class makers.

KINMOND & CO., late J. DAILY & CO., LEAMINGTON.

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## MINERAL WATERS,

PURE SODA, SELTZER, POTASH, LITHIA, &c., LEMONADE,

GINGER ALE, AND QUININE TONIC

Prepared and Bottled specially for Export, and warranted to keep well.

Manufactured with the utmost care and by improved machinery, these productions are recommended for purity and excellence of quality by many leading members of the Medical Profession, and have for many years had a preference by the public; the flavour of the Lemonade and Ginger Ale being procured from the fresh Fruit and Finest Jamaica Ginger, they may be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially for invalids.

The Soda Water is absolutely free from any metallic impregnation, and being by improved machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying proportion of Pure Carbonate of Soda, J. & B. have every confidence in inviting a trial from those who have not already patronised them.

The Seltzer, Potash, and Lithia Waters are prepared with the utmost exactitude and the purest ingredients.

The New Quinine Tonic furnishes a pleasant form for the administration of a most valuable restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic and warm stimulant beverage.

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#### ABSOLUTELY PURE."

SEE ANALYSIS. Sent post free on application.

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Soda, Potass, Seltzer, Lemon-ade, also Water without Alkali. For GOUT, Lithia Water, & Lithia & Potass Water.

CORKS BRANDED "R. ELLIS & SON, RUTHIN," and every label bears their Trade Mark. Sold everywhere, and wholesale of

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SODA, POTASH, SELTZER, AËRATED (without Alkali), and LITHIA WATERS,

LEMONADE AND GINGER ALE.

Each Bottle is protected by a Label bearing the Signature of the Firm.

Purity and Excellence of the Water certified by Analysis by Professor Attfield, Ph.D., F.C.S.

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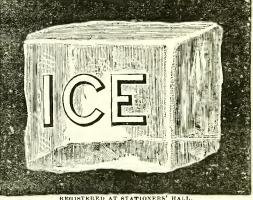
REDERICKSHAIL (5 Cases, 56./ per Case less), 24/6 Case, 30 bot.; 34/ Case, 50 j-bot.

APOLLINARIS (10 Hprs., 1/- and 1/6 less), 24/ Case, 50 bot.; 36.6 Hpr., 100 j-bot. Hampers free.

HUNYADI JANOS (10 Cases, 3/- and 5/- less), 30/- Case, 25 bts.; 50/- Case, 50 j-bts.

SELTZER	***		***	11/-	Hpr.,	25	bts.
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PULLNA		-		18/-	Case.	20	bts.
**	***	***		30/-	Case,	50	+-bte
VICHY		***		31/~	**	50	bts.
11	***	***		27/-		50	1-bt
CARLSBAD			***	37/-	11	50	bts.
KISSENGEN	₹	•••		42/6	11	50	
SCHWALLE	RACH			27/6	**	50	
HOMBURG				37/6			**
HOMBURG	***		P-0-1	3//0	21	90	7.9

wildbungen ... 40/- " 55 ", CARLSBAD SALTS, 1-Bots, 20/- per doz.; 1-Bots, 40/- per doz.; Bot., 80/- per doz. ZOEDONE, 5/- per doz., 6-doz. Cases (if 5 Cases, 2d., 10 Cases, 3d., 20 Ca.es, 4d. per doz. less).



REGISTERED AT STATIONERS' HALL

#### Norway Block Ice.

... 1/9 per cwt. ORIGINAL BLOCKS 1 cwt. to 2 cwts. ... ... ½d. per lb. cwt. to 1 cwt. ...

Packing and Mats for Original Blocks free 3d. each allowed for Mats if returned. Present Season's Ice specially fine and extra thick. Low quotations given for quantities taken from vessels while discharging.

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Wish to inform Chemists and others, who contemplate manufacturing their own Aërated Waters, that they supply and fix complete any size or kind of SODA-WATER PLANT, to make from 100 to 2,000 dozen per day, and give practical instructions how to manufacture the different kinds of beverages of first-class quality.

Every requisite for the Trade supplied and kept in stock ready for immediate delivery. and Boilers combined or separate, Boxes, Patent or Ordinary Bottles, &c., &c.

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RUIT CHAMPAGNE. Sparkling and Effervescing. Marvellously cheap. An ordinary large champagne bottle will cost 1d., and half-pint bottles 3½d. per dozen. Retail at 4d. Directions on each Packet. For making FRUIT CHAMPAGNE.

Constantly used by Mrs. Wallice Gothard (Professor of Cookery and Domestic Economy) at the Alexandra Palace.

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Produces RASPBERRY BEER clear, bright, and sparkling.

F. BIRD'S LEMON BEER POWDER, for making LEMON BEER. F. BIRD'S GINGER BEER AND POP POWDER, for producing this popular beverage quicker and better than by any other method known. Prices 27s. and 36s. per gross; also in 3 and 6 doz. Boxes. N.E.—Specially packed for exportation.

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## J. H. CUFF'S MINERAL WATERS,

Atkinson St., Deansgate, MANCHESTER.

ESTABLISHED IN 1801.

SODA WATER (ordinary) SODA WATER B.P. SELTZER WATER LITHIA WATER POTASS WATER 15 grs., 20 grs., & 30 grs. (each half-pint)

LEMONADE GINGER ALE GINGER BEER AERATED WATER without alkali QUININE TONIC WATER

LITHIA WITH POTASS WATER, &c., &c., Supplied in ordinary and half-sized bottles and in syphons.

Cuff's Waters are prepared expressly for a High-class Family Trade.

PRICES MOST REASONABLE. LIST FREE ON APPLICATION.

CARRIAGE PAID ON FULL GOODS AND RETURNED EMPTIES.

Cuff's Waters give universal satisfaction to Dealers and Consumers alike. Try them!

NEW AND IMPORTANT DISCOVERY.

FROM PURE JAMAICA GINGER.

The difficulty of using Ginger in the Manufacture of "Ginger Ale," and at the same time having a CLEAR and SPARKLING DRINK, has, after much labour and expense, been thoroughly overcome by

### Messrs. HARSTON & CO., of LEEDS,

And they are now able to place before the public a BRIGHT and SPARKLING DRINK, made purely from genuine Ginger Root.



THE ROYAL YORKSHIRE GINGER ALE, From Pure Jamaica Ginger. Has wonderful nourishing properties.

ROYAL YORKSHIRE GINGER ALE. From Pure Jamaica Ginger. Restores circulation; is warm and comforting.

ROYAL YORKSHIRE GINGER ALE Prom Pure Jamaica Ginger. Is Non-intoxicating.

THE ROYAL YORKSHIRE GINGER ALE From Pure Jamaica Ginger. For railway travelling, driving, or exposure to cold.

ABSOLUTELY PURE.

See Analysis by Drs. A. H HASSALL, M.D., and OTTO HEHNER, F.C.S.

## HAY'S SOLUBLE ESSENCE JAMAICA GINGER

(GUARANTEED PURE AND FREE FROM CAPSICUM) TRADE PRICE, 5s. per lb.; 12 lbs. and upwards, 4s. 6d.

Highly adapted for the manufacture of Transparent Aërated Waters, and for all Dietetic, Medicinal, and Pharmaceutical Purposes.

HONOURABLE MENTION, INTERNATIONAL FOOD EXHIBITION. AGRICULTURAL HALL, LONDON, OCTOBER, 1880.

#### TESTIMONIALS.

"9 Trinity Square, London, S.E. "DEAR SIR,—I think you should make it generally known that your Essence, in water, is the very best vehicle possible for Cod Liver Oil. It conceals its flavour, prevents nausea and eructations, and aids its digestion.

"DANIEL HOOPER, M.D."

"Spring Grove, Upper Norwood, I ondon, S.E.
"Dear Sir.—I have pleasure in testifying to the excellence of your Soluble Essence of Jamaica Ginger. You have fully overcome the difficulty Soluble Essence of Januage Ginger. The more than the solution and in solution used by experienced in preserving ginger in combination and in solution with iron tonic mixtures. EDWARD HAUGHTON, M.D."



#### $\mathbf{THE}$ COMPOUND ESSENCE

(GUARANTEED PURE AND FREE FROM CAPSICUM). This Essence imparts with the GINGER a PECULIARLY FINE FRUITY FLAVOUR and AROMA.

TRADE PRICE, 5s.6d. per lb.; 12 lbs. and upwards, 5s.

#### COMPOUND FORTIFIED ESSENCE

Specially adapted for the Manufacture of the FINEST

#### GINGER ALE.

This Essence imparts the fullest amount of PUNGENCY with the FINE GINGER AROMA and FRUITY FLAVOURS of the LAST-MENTIONED ESSENCE.

TRADE PRICE, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

HIGHLY CONCENTRATED.

This Essence is a complete Bonquet of the finest Ginger, Lemon, and other flavours, in a highly concentrated state.

TRADE PRICE, 9s. per lb.; 12 lbs. and upwards, 8s. 6d.

#### GINGER ALE EXTRAC

Supplies Pungency, Aroma, Colouring and Flavouring.

Price 4s. 6d. per lb.; 12 lbs. and upwards, 4s.

PREPARED BY

### **W. HAY, M**ANUFACTURING CHEMIST,

4 REGENT'S TERRACE, HULL.

AGENTS,

Messrs. HEARON, SQUIRE & FRANCIS, 5 COLEMAN STREET, LONDON, E.C.

## W. J. BUSH & CO.,

Distillers and Importers of

## Essential Oils & Fruit Essences,

SPECIALITIES FOR AERATED WATER AND CORDIAL MANUFACTURERS,

ESSENCE LEMON,

EXTRA SUPER QUALITY,

The only pure Essence imported, made at our Works at Sicily.

### ESSENCE GINGER ALE

For Winter Drinks.

TONIC ESSENCE, FOR BITTER WATER.

## Soluble Essence Lemon. SOLUBLE ESSENCE GINGER.

SOLUBLE ESSENCE OF PEPPERMINT.

#### BEWARE OF SPURIOUS IMITATIONS.

W.J.B.&Co. caution the Trade against the so-called Soluble Essences now so frequently offered for sale, which are nothing more than mere Tinctures; and although offered at lower prices, cost 5 or 6 times as much in use, whilst imparting a strong medicated flavour. W. J. B. & Co. further beg to inform their friends that Aerated Drinks-as Pale Ale, Horehound Beer, &c.—made from their Soluble Essences are exempt from Excise regulations.

NONE OTHERS ARE GENUINE.

#### CAUTION.

W. J. BUSH & CO. regret having to caution the trade against spurious imitations of this article, most of which being incredible trash.

### GUM EXTRACT

(French Cream),

PROTECTED BY ROYAL LETTERS PATENT.
For producing a Permanent Head of Creamy Richness on
Ginger Beer, Ginger Ale, Lemonade, and other Aërated
Beverages; also on Beers, Ciders, Wines, &c.

2s. 6d. per 1b.

TO MAKERS AND VENDORS OF EFFERVESCING DRINKS, AND TO THE PUBLIC GENERALLY.

In the High Court of Justice—Chancery Division—on Thursday, June 10, 1880, before Vice-Chancellor Sir C. Hall, an application was made in the action of Bush v. Young to commit the defendant to prison for disobeying an injunction whereby he had been restrained from selling, imparting, or publishing a recipe, which is an infringement of a certain patent known as "Gum Extract," the property of the plaintiff, which is used in the mineral water trade for giving a creamy head or foam to ginger beer and other beverages; the defendant having published and sold a recipe for the preparation of the same compound under the name of "Compound Fluid of Saphacanium," to be used for the same purpose. The defendant resisted on the ground that the bark used by him was not the same as that used by the plaintiff, being known as "Panama Bark."

The plaintiff, however, proved that this was in fact the same, and the Court granted the injunction. The defendant also threatened to publish the recipe unless it were bought up by the plaintiff.

His lordship made an order that in default of defendant paying the costs, he should stand committed to prison.

All persons infringing the above patent will be proceeded against, and those who give information of such infringement will be liberally rewarded.

### W. J. BUSH & CO.,

20-23 Artillery Lane, Bishopsgate, London, E.

## GINGER CHAMPAGNE.

A DELICIOUS
NON-

INTOXICATING

AND

INVIGORATING

TONIC BEVERAGE.



PRICE,
IN HALF-PINT

CHAMPAGNE

BOTTLES,

5s. 6d.

PER DOZEN.

This SPARKLING, EXHILARAT-ING, and REFRESHING DRINK, while being far more agreeable in bouquet and flavour than the FINEST CHAMPAGNE WINE, is, at the same time, unlike it, FREE from ALCOHOL.

It is strongly recommended both for Juveniles as well as for Adults, as the most wholesome stimulating beverage that has hitherto been introduced, and should be in every household during all seasons of the year.

"One of the most delicate and wholesome drinks in the market. The creaminess, colour, and even the aroma of champagne are precisely imitated, and the after flavour of the Ginger Essence is peculiarly grateful."—Medical Press.

"Made by Mr. Hay, of Hull, with his well-known Soluble

"Made by Mr. Hay, of Hull, with his well-known Soluble Essence of Jamaica Ginger, takes rank as a pure, whole-some, stimulating, and non-alcoholic beverage. — British Medical Journal.

"So much does it please the palate that one feels inclined to open a second bottle after having drunk the first. This is a beverage which the practitioner can safely recommend."—
Medical Times and Gazette.

"Mr. Hay, of Hull, deserves abundant success with his GINGER CHAMPAGNE. It is an exhibitanting, wholesome, and very agreeable beverage."—The Chemist and Druggist.

"Creamy, sparkling, and pleasantly aromatic; is in our opinion the best thing of its kind yet introduced."—Eastern Morning News.

SOLE MANUFACTURER-

#### W. HAY, Chemist, &c., 4 Regent's Terrace, HULL.

WHOLESALE AGENTS—MESSRS. INGRAM & ROYLE,
119 QUEEN VICTORIA STREET, LONDON, E.C.

This purely vegetable mild aperient Dose, for Adults, 1 Lozenge; for Children, effects a gentle relief of the from  $\frac{1}{4}$  to  $\frac{1}{2}$ , before going to bed. bowels, without causing Sold in elegant Cardboard LOZENGES, irritation. Boxes, contain-Prepared by C. KANOLDT, MANUFACTURING Gotha, Germany. Excellent ing respectively SOLE AGENT FOR GREAT BRITAIN AND THE COLONIESremedy 6 and 12 Lozenges, cases PAUL METZ, 10 Jewin St., habitual constipation. London, E.C. Pleasant at 1/6 and 2/6 Retail, including to take, and causing Wholesale Prices on application. no griping pains. Stamp. THE MARKET. SUPERIOR TO ANY OTHER SIMILAR PREPARATION

## OR DANDELION



THE BEST.

Is sold in 6d., 1s., and 2s. Tins only, and each Tin bears the Proprietor's "Registered Trade Mark" on the Wrapper, without which it is not genuine.

#### TURNER'S DANDELION CORFEE

Is recommended by the Faculty. See Testimonial.

TESTIMONIAL from C. SPENCER, Esq., M.R.C.S., WHITCHURCH.

"Dear Sir,-I have tried your Coffee, like it, and can speak very "Yours truly,
"C. SPENCER." 'Mr. J. Turner."

COTTER CLUCK

This Preparation is well got up, gives a good profit, and will only be supplied to one Chemist in each Town.

TERMS ON APPLICATION TO THE PROPRIETOR.

Prepared and Sold by J. TURNER, Pharmaceutist, AYLESBURY.

### LAMPLOUGH'S EFFERVESCING PYRETIC



HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE; it gives instant relief in Headaches, Sea or Billous Sickness, and quickly cures the worst form of Eruptive or Skin Complaints. The various diseases arising from Constipation, the Liver, or Blood Impurities, Inoculation, the results of breathing air infected with Fevers, Measles, or Smallpox, are frequently prevented and certainly cured by its use. certainly cured by its use.

The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs. Barclay, Edwards, Maw, Newberry, Sanger, Sctton, and the Wholesale Houses generally, ready to supply their wants. This Advertisement is found needful in consequence of the trouble, cost, and inconvenience in the keeping and collection of numerous small accounts. Note.—The Name, Trade Mark, Labels, Wrappers, &c., are all Registered and Entered at Stationers' Hall.

113 HOLBORN HILL, LONDON, E.C.



SPECIAL NOTICE.-Medical Gentlemen having fever cases, and desirous of trying the Saline, can have a single bottle at wholesale prices by sending their cards.

### WRIGHT'S

IN THREEPENNY PACKETS ONLY.

Acknowledged by every one to be the Cheapest and Best in the Market. "Prime Pop" or Small Beer made with greatest ease. No straining required. Order a sample card of 1 dozen from your agent. Sure to Sell. Price, 24/ per gross, less discount.

Sole Proprietor-J. W. WRIGHT, Chemist, BURNLEY.

AGENTS-Hovendens'; Bourne & Taylor; Evans, Lescher, London. Evans, Sons & Co.; Jackson, Liverpool.

#### LIEBIG'S EXTRACT

Prepared according to Baron Liebig's own Instructions.

45/- per doz. | 2 oz. Jars 23/3 do. | 1 oz. do. 49/- each.  $\frac{1}{2}$  lb. Jars 87/- per doz.  $\frac{1}{4}$  oz. do. 12/4 per doz.

Flavoured Extract of Meat, 6d. per lb. less. Solid Essence of Meat, 1 lb. Jars, 4s.; † lb. Jars, 4s. 3d.; † lb. Jars, 4s. 6d. per lb. 6 lb. weight Carriage Paid. Packages Free. Orders of 50 lbs. 7½ per cent. off.

Also Beef, in 2 lb. tins, at 10/- per doz. Corned Beef, in 2 lb. tins, at 10/6 per doz. Mutton, in 2 lb. tins, at 13/- per doz.

THE AUSTRALIAN (RAMORNIE) MEAT CO., 52 & 53 CRUTCHED FRIARS, LONDON.

These incomparable products of world-wide celebrity have obtained the following Prizes:



Also the Gold Medal at Paris Exhibition, 1878; Silver Medal, Sydney, 1879; "First Order of Merit," Melbourne, 1881.

A PRIZE WHEREVER EXHIBITED.

Foreign and Colonial Importers should obtain their supplies through any Wholesale Firm in Great Britain, or Shipping Agent, thus ensuring fresh stock and lowest prices.

#### PRINCIPAL DEPOT := 9SNOW HILL, LONDON.

CONTRACTORS TO HER AND THE



MAJESTY'S GOVERNMENT INDIAN GOVERNMENT.

THE CONSOLIDATED SOUP AND FOOD CO., 23 CASTLE STREET, FINSBURY, LONDON, E.C.

To the CONSOLIDATED FOOD Co., 28 Castle Street, Finsbury, E.C.
Gentlemen.—This is to certify that I have made a careful examination of the
"Valentia" Food, and find it an exceedingly nutritious compound, rich in nitrogenous matters, viz., in Legumen, Albumen, Gluten, &c., combined with a appropriate amount of "Respiratory "Food. It also contains the valuable "Food Phosphates of Potash and Lime" amongst other mineral constituents.

This Food is quite free from any objectionable substance or quality.

EDWARD V. GARDNER, F.A.S., M.S.A. Professor of Chemistry, late of the Royal Polytechnic Institution. Wholesale of Messrs. Sanger & Sons, 252 Oxford Street,

33°00 54°60

Soluble Nitrogenous Organic Inaucr, viz., Albumen, Fibrine, &c.
Starchy matters, &c.
Other Nitrogenous Organic substance, viz., Albumen, Fibrine, &c.
Inorganic Constituents, principally Phosphate of Potash and Lime, with
Salts of Alkalies 2.40 Traces of Soluble Silica ...

thle Silica ... ... ... ... 100'00

EDWARD V. GARDNER, F.A.S., M.S.A.,

Professor of Chemistry, late of the Royal Polytechnic Institution. l Wholesale Druggists and Druggists' Sundrymen.

Gold Medal, Paris, 1878.

First Degree of Merit and Medals, Sydney, 1880, Melbourne, 1881.

### EXTRACT

Is guaranteed to be perfectly pure Cocoa only, the superfluous oil extracted.

- "If properly prepared, there is no nicer or more wholesome preparation of Cocoa"—Dr. Hassall. "Strictly pure, and well manufactured in every way."—W. W. Stoddarf, F.I.C., F.C.S., City Analyst.

'Try also FRY'S CARACAS COCOA.—"A delicious preparation."

J. S. FRY & SONS, BRISTOL AND LONDON.

Product of a special refining process.

It is Chocolate devoided of its overrichness and substantiality.

Sugarless, and, when made, of the consistence of Coffee.

An afternoon Chocolate.

In packets, 6d. and 1s., and tins, 9d., 1s. 4d., 2s. 8d., 5s., or 7s. 6d. labelled.

JAMES EPPS & CO.,

Homæopathic Chemists,

LONDON.

## EPPS'S CHOCOLATE ESSENCE.

## SPECIAL NOTICE & CAUTION. BRAND & CO.

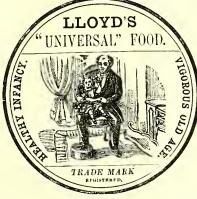
The Original Manufacturers of Essence of Beef (green label under wrapper), and other Specialities for Invalids, have

#### NOT REMOVED

From their SOLE ADDRESS, No. 11 LITTLE STANHOPE STREET, MAY-FAIR, W, and caution the trade to

BEWARE of IMITATIONS.





## "UNIVERSAL" FOOD

(Patent Cooked Malted Far'naceous).

## THE NEW FOOD

FOR INFANTS, CHILDREN, AND ADULTS, BOTH IN HEALTH AND SICKNESS:

REQUIRES NEITHER BOILING NOR STRAINING.

From the British Medical Journal, June 25, 1881:—"This Food has, we find on trial, many recommendations: it is easily digested, and requires no cooking, needing only to be mixed with boiling water or milk. It is highly nutritious, very palatable, and has the merit of being cheap. It makes an excellent supper-disb, and a delicate custard with fruit. It has more nutrition than rice, sago, or tapioca, and makes excellent judding. As an article of ordinary diet, it is applicable for general use as well as for the special use of invalids and children, for whom it may be made to replace, and often very advantageously, bread and milk and various forms of porridge. It is not artificially sweetened, and is a very excellent food, skilfully devised and well prepared."

This Food has, we find with the artificially sweetened, and is a very excellent food, skilfully devised and well prepared."

This Food consists of the most nutritious and finest-selected cereal grains and pulse, combined with the active constituents of pure freshmalt meal, in such proportions as to render the mixture as nearly as possible chemically identical with the constituents of the human body itself. It is therefore valuable for everyday use, both in health and sickness, and for every condition of life; alike suited to the youngest child, the most robust adult, and the weakest invalid. Being thoroughly cooked, it is quickly and easily made; and being palatable, it is attractive, instead of, as so many foods are, repulsive. It is invaluable in all cases of weak digestion, confirmed indigestion, and constipation.

EXCELLENT for Breakfast. UNSURPASSED for Supper. DELICIOUS as Baked Pudding. NOURISHING as Custard, with
Stewed Fruit of all kinds.
INFANTS thrive Splendidly on it.

CHILDREN grow Strong on it.
ADULTS keep Well on it.
INVALIDS recover on it.

Analytical Report by Professor ATTFIELD, F.R.S., &c., Professor of Practical Chemisty to the Pharmaceutical Society of Great Britain, D.c. 16th, 1880, "I have made a chemical analysis and microscopical examination of LLOYD'S' UNIVERSAL' FOOD, a well-mixed and prepared meal. I find it to be a true food, rich in all the elements necessary to the formation of fiesh, fat, bone, and muscle, and therefore greatly superior to mere struchy 'foods,' Itselements are in a proper form, in a perfectly cooked form, and in natural proportions. The phosphates present equal fully two per cent. of bon' phosphate. The nitrogenous or flesh-forming matter amounts to as much as fifteen per cent. (Signed) JOHN ATTFIELD."

In Tins, at 1s., 2s, 5s., and 10s. each, less usual trade discount, of the Manufacturers,

J. & C. LLOYD & CO., Verulam Street, Gray's Inn Road, LONDON, E.C.

#### GIBSON'S

DELECTABLE JUJUBES. *VOICE JUJUBES.* ANDGLYCERINE PASTILLES.

Put up in 4-lb. Decorated Tins with Glass Lids, TINS FREE, are now being inquired for by buyers from all parts of the world. They are not surpassed in quality by any maker, and give entire satisfaction.

MEDICATED HIGH-CLASS LOZENGES, of every kind. Sent out in 2-lb. or 4lb. Bottles, Bottles Free; or in Tins, from 10 lb. upwards.

LIME JUICE TABLETS, THIRST QUENCHERS.

ACID DROPS, AND BEST QUALITY BOILED SUGARS OF EVERY KIND.

GIBSON'S ORIGINAL CHLORODYNE LOZENGES.

PENNY SUGAR WORM CAKES, suitable for either children or adults. Have an immense sale, keep in any climate, and please everybody. Manufactured by

ROBERT GIBSON, Carlton Works, Hulme, Manchester, and 1 Australian Avenue, London.

Price Lists sent on application. Our Goods can be bought through any Wholesale or Export House in London.

## PURE FOOD COMPANY'S

Preparations and Manufactures of various Articles of Food of Daily Consumption,

Including especially those required by INVALIDS.

CONCENTRATED BEEF-TEA, &c. EXTRACT OF COFFEE, &c.



MILK FOODS, &c., FOR INFANTS, CHILDREN, AND INVALIDS.

ALL BEING GUARANTEED OF ABSOLUTE PURITY AND OF THE FINEST QUALITY.

For Price List and further particulars, apply to

THE PURE FOOD COMPANY, 4 PRINCES STREET, RED LION SQUARE. LONDON.



PREPARED BY THE

### AYLESBURY DAIRY COMPANY, LIM.

NOTICE.—KOUMISS has hitherto been very costly, in fact, the price has prohibited its use except to the wealthy and in very extreme cases. The Aylesbury Dairy COMPANY having all the necessary conveniences for its preparation-space, a resident analytical chemist, an unlimited supply of pure milk (more than 3,000 gallons are daily passed through the dairy), and a service of delivery covering all the Western Districts of London, are now able to supply this most valuable beverage at less than onehalf the price hitherto charged.

May be obtained from Chemists in nearly all Provincial Towns.

Chemists will be furnished with full particulars as to Prices and Terms on application to the Secretary,

#### AYLESBURY DAIRY COMPANY, LIM.,

31 ST. PETERSBURGH PLACE,

BAYSWATER, LONDON, W.

### MUSTARD.

Genuine Qualities

Are made from the finest mustard seeds only. Their compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

6 BROKEN WHARF, UPPER THAMES STREET. LONDON.

### CHEMISTS' TEA AGENCY.

#### WALKER & DALRYMPLE'S Broken-Leaf Tea

1s. 8d. per lb.

A moncy-saving tea. Absolutely pure. The small leaf from some of the finest Indian and China Teas. Produces a tea in the cup stronger, richer, and cheaper than most whole-leaf teas. Agents appointed, where unrepresented, throughout the United Kingdom.

#### WALKER & DALRYMPLE'S Intermediate Tea,

BEST at the PRICE EVER SOLD. Great strength, and a most useful tea where there is a large consumption. Recommended to all who wish to save in their tea. Agents appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S TEAS.
Agents appointed, where unrepresented, throughout the United Kingdom. Prospectus and samples free on application.

Warehouses—154 and 155 Whitechapel Road, London.
P.O.O. payable at Head Office. Bankers—The National Provincial Bank
of England.

KORFF'S

33/ per Dozen Pound Tins.

Half-Pound Tins. 17/ 9/ Quarter-Pound Tins.

Of all the Wholesale Houses, and E. A. PHILLIPS & CO., 23 GREAT ST. HELEN'S, LONDON, E.C.

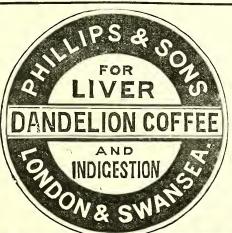
POWDER.

E. LAZENBY & SON (6 EDWARDS STREET, PORTMAN SQUARE.) Sole Proprietors of the Celebrated Receipts and Manufacturers of the Pickles, Sauces and Condiments so long and favourably distinguished by their name, beg to remind the public that their labels are affixed to the choicest description of goods only, that every article prepared by them is guaranteed as entirely unadulterated and may be obtained of Grocers, Italian Warehousemen and others.

HARVEY'S SAUCE.—CAUTION.—The admirers of this Celebrated Sauce are particularly requested to observe that each bottle bears the well-known label signed "ELIZABETH LAZENBY"; this label is protected by perpetual injunction in Chancery of the 9th July 1858 and without it none can be genuine.

18 TRINITY STREET, LONDON.

Elizabeth Lazerby



#### ESTABLISHED 1760.

Contains three times the strength of ordinary Breakfast Beverages.

#### TRIED ALWAYS

The valuable properties of the Dandelion Root, recognised by eminent Physicians for many centuries, has now become an article of daily use. Sold by all Chemists throughout the Kingdom in Tins at 1s. 6d., 1s., 9d., and 6d.—Price Lists on application to the Manufacturers,

#### PHILLIPS CASTLE SQUARE, SWANSEA,

AND ARTHUR STREET WEST, LONDON BRIDGE,

JAS. WOOLLEY, SON & CO., Manchester.
W. MATHER, Export Agent, London.
CLARKE & McMULLAN, Belfast.
GOODALL, BACKHOUSE & CO., Leeds.
MCMAISTER & HODGSON, Dublin.
PARCIAN & SONS
MCMAISTER & HODGSON, Dublin.
PARCIAN & SONS
MCMAISTER & HODGSON, STREET

16 Coleman Street

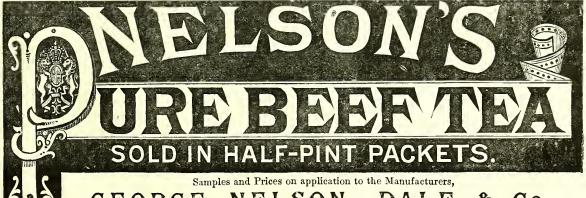
17 STREET WEST, LONDON BRIDGE,

EVANS, SONS & CO., Liverpool, &c.

MAW, SON & THOMPSON, Aldersgate
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McMAISTER & HODGSON, Dublin.
BARCLAY & SONS, Farringdon Street.
BARCLAY & SONS, Farringdon Street.

COLONIAL AGENTS.—Melbourne, Adelaide, and Sydney—P. FALK & CO. New Zealand, Nelson, Canterbury, Auckland—A. SCLANDERS & CO.; E. & A. ISAACS. Adelaide—F. H. FAULDING & CO. Cape, Algoa Bay, East London—L. DREYFUS.

SPECIAL TERMS TO MERCHANTS AND SHIPPERS



GEORGE NELSON, DALE Co.,

14, DOWGATE HILL, LONDON, E.C.

#### EDUCATIONAL NUMBER

Of "THE CHEMIST & DRUGGIST" will be published on SEPT. 15, 1881.

## SILICAT

Retailed at FIVE SHILLINGS each.

Designed by MAJOR FRASER. of the ROYAL ENGINEERS. especially

for Officers' Kits. Weighs only 8 ounces.



No. 20 H.

by the Authorities at the Horse Guards, and has been largely used in the Afghan and Zulu Expeditions.

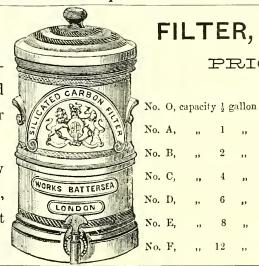
It has been approved

Post on receipt of FOUR SHILLINGS. Sample sent free by

### DOMESTIC

Made in cream-coloured Stoneware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap.

All sizes of this pattern can now be had with Ice Compartment, which renders this Filter the most perfect of Refrigerators.



### FILTER, NO. 27.

PRICES.

With Ice Compartment.

17s. 6d. No. A, 14s. 6d. ... 25s. 0d No. B. 21s. 0d.

10s. 6d.

32s. 0d. ... 36s. 0d. No. C, 48s. 0d. No. D, 6 42s. 0d. ...

60s. 0d. No. E. 8 52s. 0d. ...

No. F. 70s. 0d. ... 80s. 0d. 12

#### FILTER, SUPPLY MAIN

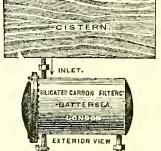
SPECIALLY ADAPTED FOR Mansions, Schools, Hospitals, Public Institutions, Breweries, Distilleries, Soda Water Manufactories. Dye Works,

And all other Establishments where large quantities of

#### PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows :-A, ½-inch or ½-inch pipe .. .. £6 6s. B 1-inch pipe .. £9 91. C, 11-inch, 11-inch pipe .. D, 2-inch pipe .. .. .. £26 54.



This Filter is extremely simple in construction, and can be either connected with a Cistern or attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 1,000 gallons per hour, according to size.

Special Contracts entered into for Large Works, Institutions, &c., &c.,

OF THE WATER SUPPLY OF A BUILDING BEFORE USE. PURIFYING THE WHOLE Ensuring Rapid and Perfect Filtration, at either High or Low Pressure.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

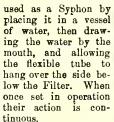
## SILICATED CARBON FILTERS.

### SYPHON FILTERS FOR TRAVELLERS.

By means of these Filters pure and perfectly wholesome water may be drunk from any pond or stream by simply immersing the Filter therein and drawing the water through

the tube by suction.

Each of these portable Filters may be

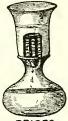


They are readily cleaned from sedimentary matter by merely blowing through the tube, and brushing the surface of the filtering medium.

			1
A.—Pocket Filter, 21 inches diameter, in porcelain, with glass	S.	đ.	ı
mouthpiece, in decorated metal box		6	1
B.—Ditto, 3½ inches diameter, in best stoneware	5	0	
Ditto, ,, with silver-plated tap	7	0	
C.—Emigrant's, 5 inches diameter, with silver plated tap	12	0	ı
GPocket Filter, for carrying over shoulder, as supplied to the Forces in Abyssinia and in Zul-land, and to the Ashantee			١
Expedition Expedition	3	6	ı
HDitto, nickel-plated, designed by Major Fraser, R.E., and specially			1
recommended by the Horse Guards for Officers' kits	5	0	J

#### FILTER, NO. 24. TABLE

Made of stout glass, in 1, 2, and 3 pint sizes, the filtering medium being securely fitted into the bell-funnel, so that it is not liable to become loose, or to allow unfiltered water



to pass. This Filter is peculiarly suited for the Bedroom and for Table use, affording a ready and simple means of obtaining at any time freshly-purified water.

PRICES.

O, 2s. 6d.; A, 4s.; B, 5s. 6d. Engraved Vine Pattern-O, 3s. 6d.; A, 5s. 6d.; B, 7s. 6d.

### POROUS TERRA COTTA FILTER, NO. 29

Shape of this Filter as Fig. No. 24. O, 2s. 6d.; A, 4s.; B, 5s. 6d.

### SILICATED CARBON BLOCKS.

2 in., 1s.6d;  $2\frac{1}{4} \text{ in., } 2s.6d$ .;  $2\frac{3}{4} \text{ in., } 3s.$ ;  $3\frac{1}{2} \text{ in., } 4s$ ;  $4\frac{3}{4} \text{ in., } 5s.6d$ . es SPECIAL QUOTATIONS FOR QUANTITIES.

## WEATED AFILTER GOV PURIFYING FLITE DAHLIES ADE PATEN

### DINING-ROOM FILTER.

No. 22.

MADE IN MARBLED CHINA. Size A holds about two gallons; size B, five gallons.

PRICES.										
A			• •		• •			• •		35s.
$\mathbf{B}$										80s.
Α,	A, with Ice Compartment 42s.									42s.
				(Nev	v Pa	tent	.)			
В,	with	Ice (	Comp	part:	men	t				100s.
			i	(Nev	v Pa	tent	.)			

The large size (B) is specially adapted for Hotels, Refreshment Rooms, Luncheon Bars, &c.

### REFRIGERATOR FILTER, NO. 25.

Made in Porous Terra-Cotta Ware,

Which acts with remarkable power as a cooler, and renders this Filter invaluable, especially in Tropical Climates,

AFFORDING A COOL DRAUGHT OF PURE WATER.

Price, with Silver-plated Tap ... Ditto, ditto, with Ice Compartment.. Capacity Two Gallons.

Specially adapted for Tropical Climates.



#### SILICATED CARBON (Regd.) ASCENSION FILTERS.



NO. 38.

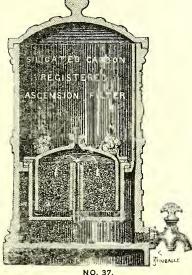
The most efficient known Filter

#### PRICES:

No. 38. 1 Pint, 2/6 ea. 4/-5/6

The Water passes upwards through the Silicated Carbon in the direction shown by the Arrows in the

Drawings.



for Table and Domestic Use.

#### PRICES:

No. 37. 1 Gal., 18 - ea.

26′-38/-

The inner blocks being movable, by attaching an indiarubber tube they can be converted into Pocket or Travelling

Filters.



SECTION OF NO. 38.

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AUGUST 15, 1881.

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CRESOLENE.

AND

## CRESOLENE

THE NEW SPECIFIC FOR

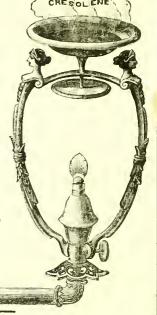
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ALSO USEFUL IN

ASTHMA, CATARRH, CROUP, DIPHTHERIA,

HAY FEVER, &c.

And for Disinfecting Purposes.



CRESOLENE is a definite product of Coal Tar, allied to, but distinct from, Carbolic Acid. It is stated to be far more destructive of fungoid and other very low forms of life than carbolic acid, and to be the most powerful antiseptic at present known. Be this, however, as it may, the important practical fact is that the inhalation of the vapour of Cresolene gives extraordinary relief in Whooping Cough, and commonly puts an end to the disorder in a few days. It has also proved valuable in Asthma and various other affections, and is a powerful and convenient disinfectant. The use of the Vaporizer and Cresolene is now very extensive in the United States. For further particulars and directions, and for important medical testimony as to the great value of this new remedy, see the handb.lls for distribution, which are supplied free on application.

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